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THE INFLUENCE OF THE THYROID GLAND ON THE ACTION OF MORPHINE*

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INTRODUCTION

THE influence of endocrine secretions on the action of drugs, or of drugs on the actions of the endocrines, is no new problem and recently a number of such relationships have been studied. However, very little attention has been paid to any possible antagonism between thyroid and morphine. It is obvious that thyroid produces nervous stimulation of a type and that morphine produces depression. But the question arises whether these reactions cancel each other or not; and whether any quantitative measurements of such an influence can be made.

This problem was suggested by the following case of Dr. F. B. Lund's: "M. A. J. age 36, single, came for relief of menorrhagia of two years' duration. Examination showed a retroverted uterus with a small fibroid. A hysterectomy was done. The pre-operative medication was morphine sulphate gr. 1/6 and atropine sulphate gr. 1/150. This put the patient to sleep while waiting to go to the operating room. During the operation slow, shallow respiration suggested an overdose of morphine. Although only a small amount of ether was used, the patient did not begin to wake up from the anesthetic for eight hours and then only if disturbed. During this time her pulse was 60-70 and her respirations 12 and somewhat shallow. The next morning she was normal and subsequently she made a particularly easy convalescence; so much so, that no further doses of morphine were needed."

Of course, the possibility of an overdose was looked into, but no evidence that the nurse had made any mistake was found. The morphine count was correct. However, the patient informed us that she had had similar experiences at other operations,—once, four years before at the time of an operation for appendicitis and once, two years before, with a hemorrhoid operation. Then it was discovered that habitually her basal metabolism was —18, although she had none of the classical signs of myxedema. However, she was slightly fat, had a small appetite, constipation, dry skin, placid disposition and was fatigable. None of these signs or symptoms were severe enough to prevent her working successfully as a private secretary to a busy man.

We do not want to have it inferred that we believe such cases to be primarily due to lack of thyroid secretion. We realize that there is a widespread feeling that such may not be the case. However, the fact that such a patient exhibited a definite idiosyncracy to morphine seemed to be such an important observation that it should be followed up. No reports of such a cause of idiosyncracy to morphine have been found after careful search.

PREVIOUS WORK IN THIS FIELD

(A.) *Relation of Morphine to Hyperthyroidism*

Hunt and Seidell[1], developing their acetonitril test for the activity of thyroid preparations, also performed some experiments in which they determined that the lethal doses of morphine for rats and mice were markedly affected by previous thyroid feeding of the animals tested. But they did not study non-lethal doses, or indicate the manner of death in such cases. This work has been generally accepted, and has been confirmed by Hildebrandt[2] and Scarborough[3]. The latter also studied chronic morphine poisoning with, and without, hyperthyroidism. Hildebrandt found that chronic morphine poisoning produced a state of metabolism similar in many ways to that of the hypothyroidism following thyroidectomy. Scarborough found that chronic morphine poisoning associated with thyroid feeding is not accompanied by any accentuation of the depressant actions of morphine on the central nervous system.

(B.) *Relation of Morphine to Hypothyroidism*

Hypothyroidism and morphine have been studied by Newton[4], who found that very small doses of morphine made hypothyroid rabbits even less sensitive than they already were to increases of external temperature as a cause of increased respiration. This is the equivalent of an overaction of morphine in the presence of hypothyroidism. Busso[5] has found that hypothyroid rats are killed more easily by morphine than normal ones, while Olds[6] in 1911, was not able to demonstrate this fact.

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†For record and address of author see "This Week's Issue," page 381.

(C.) *Effect of Morphine on Normal Metabolism*

Schoen[7] found that morphine reduced the basal metabolism of normal humans about 20-25% during the first hour after the injection. The effect of repeated doses on the metabolism was similar, but it wore off much more rapidly. DuBois[8], however, states that morphine causes only a slight decrease in metabolism.

(D.) *Effect of Morphine on Normal Rabbits*

Inasmuch as the effect of morphine on different mammals varies so much, it is important to understand its effect on the normal rabbit, which is the animal used in these experiments. The spinal excitant effect seen in cats and certain humans is never seen in rabbits. Rabbits are very tolerant to morphine, but when a large enough dose is given the effect is similar to that in the normal human. However, on a per kilo basis, we have used 250 times the average human dose.

PLAN OF EXPERIMENT

We started at first to produce hyperthyroidism and hypothyroidism in the larger laboratory animals (dogs and cats), and then to follow the clinical effects of non-lethal doses of morphine. The temperature, pulse, respirations, amount of spontaneous activity, and activity following stimulation were all followed. Although we made many suggestive observations in this way, they necessarily were not quantitative, and it seemed impossible to present such data so that they would show definite results. Inasmuch as we had to determine the basal metabolism of our animals in order to be sure of the completeness of hypothyroidism in the animals whose thyroids were removed, and to determine the degree of hyperthyroidism present in the animals fed thyroid, we thought of using metabolism determinations as an index of the action of morphine.

We have carried out a number of experiments in which we determined the basal metabolism of the animals before and after doses of morphine. Most of these determinations have been done on rabbits, several normal or control basal rates being obtained first on each rabbit; then several after thyroidectomy, and later still several determinations after thyroid feeding had raised the metabolism above normal. As may be seen from the tables, the experiments have been spread out over many weeks in each case so that as little tolerance to morphine would be developed as possible. We have given a large dose of morphine in each instance and have only had time so far to test the effects of such doses: G. o. 060—G. o. 120 per kilo. In some early experiments we found no essential difference in effect between G. o. 060 and G. o. 120 per kilo, so we then adopted the smaller dose as standard, and used this in the bulk of our experiments. In each instance we have taken the rabbit's temperature and respiration before the pre-morphine metabolism test and after the post-morphine test. No unhealthy animals have been used. We have determined metabolism by measuring oxygen consumption in a closed system with a blower, soda-lime bottle, spirometer, and mercury-sealed, cast iron, animal chamber. Graphic records have been made in all cases and the temperature of the system controlled by suitable accurate thermometers.

The operations on the first three rabbits were done in two stages in order to avoid the high mortality of the one-stage operation. Later, when we had acquired more facility in saving the parathyroids, and yet at the same time removing all the thyroid, we gave up the two-stage operation. None of these animals showed any signs or symptoms of parathyroid deficiency. Two of them, however, showed a transient recurrent nerve paralysis in the first week after the second operation. This was shown by respiratory stridor, noticeable only when the animal was excited.

In the thyroid feeding experiments, Parke, Davis & Company's* desiccated gland was used. In the thyroxin injections, pure crystalline thyroxin supplied by E. R. Squibb & Sons* was used.

Tables giving the data on which the charts are based will be found at the end of the paper.

EXPERIMENTAL DATA

Rabbit No. 1. (See Chart No. 1 and Table No. 1.)

The results of the determinations in this experiment are given in Chart No. 1.

It will be seen that there is considerable difference in results in each experiment, but this difference is well within the limits of experimental error in this type of work. Before the whole thyroid was removed, the unnarcotized metabolism was very constant, at a level between 2.55 and 2.70, with an average drop in metabolism of 14% after morphine was given. After total thyroidectomy the unnarcotized metabolism was much lower, but not so constant. However, the metabolism after morphine was very constant,—between 1.45 and 1.58. In the one determination done after thyroid feeding the metabolism was definitely above normal and no drop was found after the dose of morphine.

Rabbit No. 2. (See Chart No. 2 and Table No. 2.)

This rabbit was interesting in that he was much less lively, normally, than number one. Before removal of the thyroid the effect of morphine on the metabolism was less than in the case of number one, and this held, also, when he was in a hypothyroid condition. This was probably due to the fact that the pre-morphine metabolism was more nearly basal than in rabbit No. 1. However, the metabolism after morphine was very close to the level of number one both

*We wish to thank these companies for their very generous donation of these drugs.

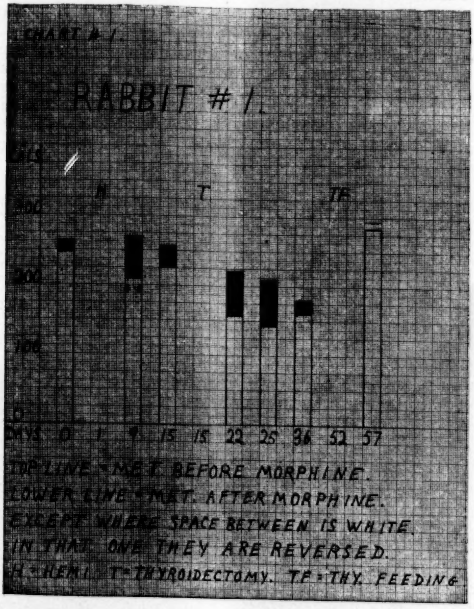


CHART #1.
RABBIT #1.
H
T
TF
200
100
0
DAYS 0 1 9 15 18 22 25 36 52 57
TOP LINE = MET. BEFORE MORPHINE.
LOWER LINE = MET. AFTER MORPHINE.
EXCEPT WHERE SPACE BETWEEN IS WHITE.
IN THAT ONE THEY ARE REVERSED.
H = HEMI. T = THYROIDECTOMY. TF = THY. FEEDING.

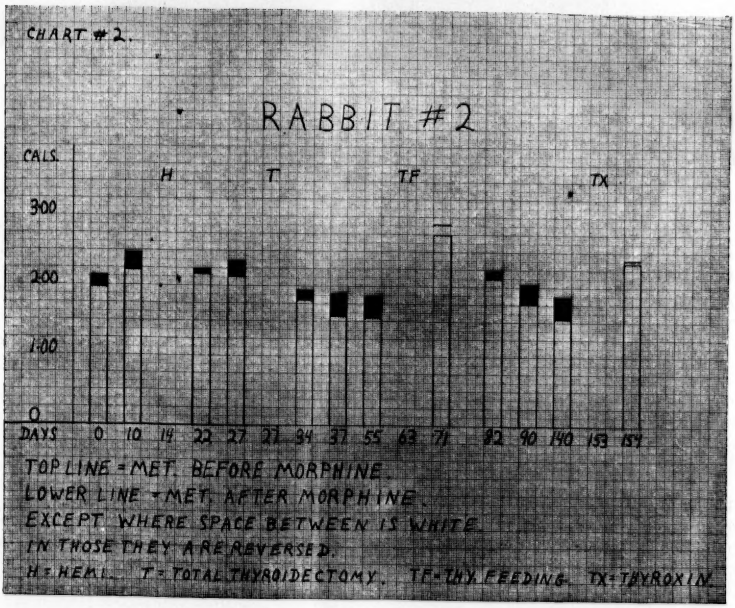


CHART #2.
RABBIT #2
CALS.
H
T
TF
TX
300
200
100
0
DAYS 0 10 14 22 27 27 34 37 55 63 71 82 90 140 153 157
TOP LINE = MET. BEFORE MORPHINE.
LOWER LINE = MET. AFTER MORPHINE.
EXCEPT WHERE SPACE BETWEEN IS WHITE.
IN THOSE THEY ARE REVERSED.
H = HEMI. T = TOTAL THYROIDECTOMY. TF = THY. FEEDING. TX = THYROXIN.

before and after thyroidectomy. The experiments between the two periods of hyperthyroidism are especially interesting as they show how the metabolism acts while the animal becomes more and more completely hypothyroid.

Rabbit No. 3. (See Chart No. 3 and Table No. 3.)

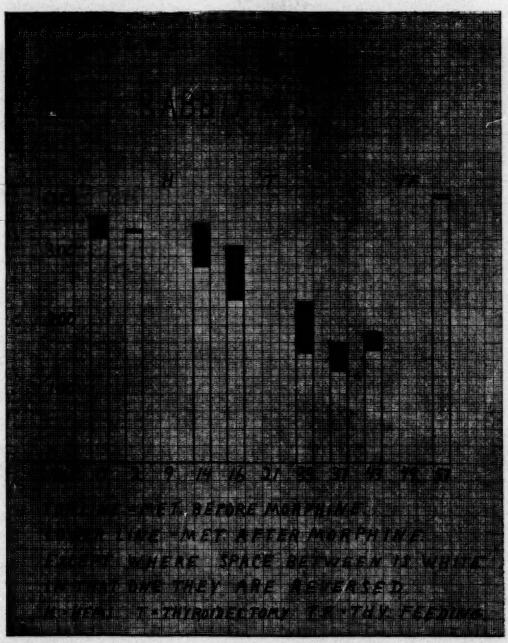
This rabbit ran a much higher normal metabolism than the others, due to the fact that he was not yet fully grown. However, after thyroidectomy, the metabolism came down to the same level as that of the others.

Rabbit No. 4. (See Chart No. 4 and Table No. 4.)

This rabbit in many ways is our most valuable experiment. It is unfortunate, that when we came to check up, we found that only one preoperative determination was technically satisfactory so that we have no average of preoperative determinations to present. However, his hypo- and hyper-thyroid experiments were very satisfactory and checked well with the other rabbits.

Table No. 5 and Chart No. 5.

This chart groups together the average determination in each state of each animal. Note the wide variation in metabolism both before and after morphine in each normal animal. On the other hand note the close agreement in metabolism both before and after morphine in the hypothyroid cases. Also, that in all hypo-experiments the per cent. of drop in metabolism is greater than in the normal ones except in the case of rabbit No. 5, where the preoperative series consisted of one determination and not of an average.



The hyperthyroid animals show an inappreciable change before and after morphine. In no case is this as great as the limits of experimental error.

Table No. 6 and Chart No. 6.

This shows averages of all experiments put together in normal, hypo- and hyper-thyroid blocks. They need no discussion.

GENERAL DISCUSSION

Effect of Morphine on Metabolism

This series of experiments shows conclusively that the effect of morphine on the metabolism of rabbits may be definitely measured. Whether this would be found true with humans within safe limits of dosage we cannot say. As we noted previously, however, Schoen found that

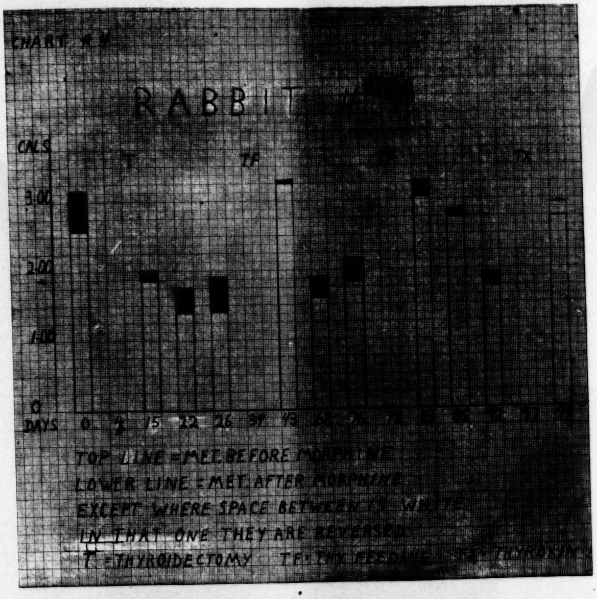


CHART # 4
RABBIT #
CALS.
T
TF
TX
3.00
2.00
1.00
0
DAYS
TOP LINE = MET. BEFORE
LOWER LINE = MET. AFTER
EXCEPT WHERE SPACE BETWEEN IS WHITE
IN THAT ONE THEY ARE REVERSED
T = THYROIDECTOMY

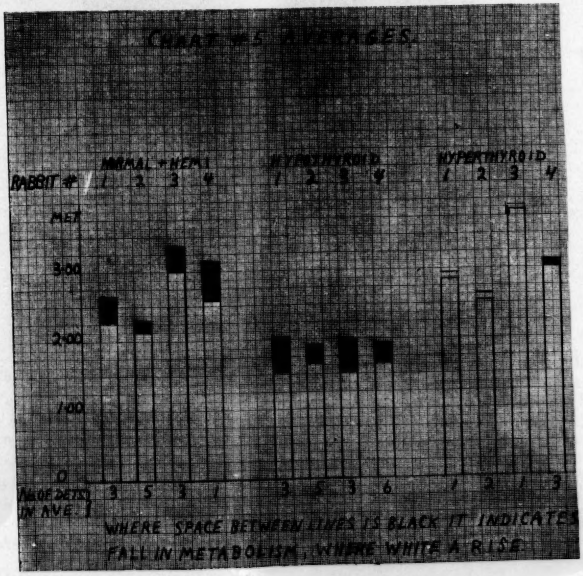


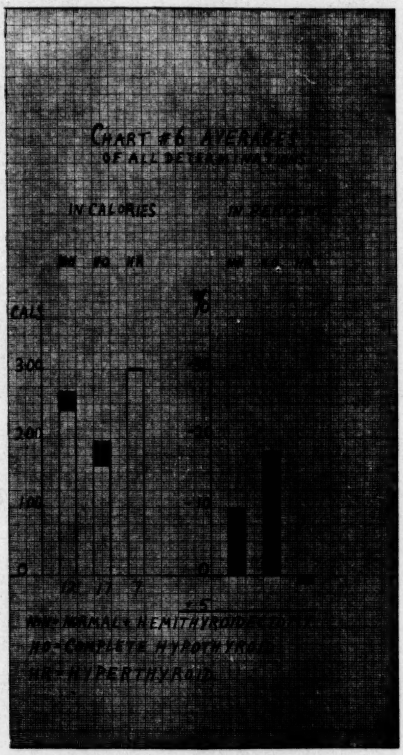
CHART # 5 AVERAGES.
NORMAL + HEMI
HYPOTHYROID
HYPERTHYROID
RABBIT #
1 2 3 4
1 2 3 4
1 2 3 4
MET.
3.00
2.00
1.00
0
NO. OF DETS. IN AVE.
3 5 3 1 3 5 3 6 1 2 1 3
WHERE SPACE BETWEEN LINES IS BLACK IT INDICATES
FALL IN METABOLISM, WHERE WHITE A RISE

this effect can be measured, but DuBois states that it cannot.

Influence of Thyroid on Effect of Morphine

We have confirmed Newton's findings that a hypothyroid state in rabbits enhanced the effect of morphine, although we studied the effect in entirely different ways. We have found that the effect of similar doses of morphine on hypothyroid rabbits was much greater than the effect on normal ones and that there was no effect (as measured by the metabolism) from the same doses with hyperthyroid rabbits.

We have no data to draw comparison with experiments on lethal doses of morphine as we have not used lethal doses and have not worked with the same animals on which lethal dose experiments have been made. Such experiments, with special attention to the mechanism of death in relation to metabolism, would be extremely interesting.



SUMMARY

1. Data on the effect of morphine on the metabolism of four rabbits are presented, each rabbit having been observed in the normal, hyperthyroid and hypothyroid states.

2. A large dose of morphine causes a drop of about 10% in the metabolism of the normal rabbit.

3. The same dose of morphine causes a drop of 20% in the metabolism of a hypothyroid rabbit.

4. No change is produced by the same dose of morphine on the metabolism of the hyperthyroid rabbit.

5. The rate of metabolism of hypothyroid

rabbits after a dose of morphine is extraordinarily constant.

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TABLE NO. 1

RABBIT No. 1

Date	Wt	T	R	Met	Dose M	Met	% Change	T	R
Jan. 24	1.72	99.8	—	2.63	G 0.240	2.47	—6	98.2	—
25		Hemithyroidectomy							
Feb. 2	1.80	103.6	—	2.71	G 0.240	2.11	—22	101.2	—
8	1.80	100.2	—	2.57	G 0.240	2.24	—13	102.2	—
8		Total Thyroidectomy							
15	1.80	101.4	—	2.22	G 0.120	1.58	—29	98.4	—
18	1.80	103.4	112	2.10	G 0.120	1.42	—32	98.0	15
Mar. 1	1.82	102.0	160	1.80	G 0.120	1.59	—12	—	—
16	1.76	Thyroid Feeding			Mg 30				
17	1.72	"	"		" 30				
18	1.70	"	"		" 30				
19	1.70	"	"		" 30				
20	—	"	"		" 30				
21	1.66	103.6	90	2.84	G 0.120	2.96	+4	103.4	52
21		Thyroid Feeding			Mg 30				
22		"	"		" 30				
23	1.60	"	"		" 30				
24	1.54	"	"		" 30				
25	1.42	Died							

TABLE NO. 2

RABBIT No. 2

Date	Wt	T	R	Met	Dose M	Met	% Change	T	R
Jan. 11	2.00	100.6	60	2.14	G 0.120	197	—8	—	—
21	1.90	102.0	—	2.48	G 0.240	222	—10	100.0	—
25		Hemithyroidectomy							
Feb. 3	1.95	103.2	—	2.26	G 0.240	2.18	—4	101.0	—
8	2.02	101.6	—	2.34	G 0.240	2.13	—9	100.0	—
8		Total Thyroidectomy							
15	2.20	103.0	—	1.94	G 0.120	1.80	—7	98.0	—
18	2.12	103.6	84	1.89	G 0.120	1.57	—17	94.4	10
Mar. 8	2.10	102.5	100	1.85	G 0.120	1.55	—16	96.2	24
16	2.00	Thyroid Feeding			Mg 30				
17	2.03	"	"		" 30				
18	2.01	"	"		" 30				
19	2.04	"	"		" 30				
20	—	"	"		30				
21	2.00	"	"		" 30				
22	—	"	"		" 30				
23	2.03	"	"		" 30				
24	1.94	103.2	110	2.76	G 0.120	2.91	+5	102.7	40
24	1.94	Thyroid Feeding			Mg 30				
25	1.92	"	"		" 60				
Apr. 5	2.03	104.0	100	2.26	G 0.120	2.12	—6	102.4	44
13	2.02	104.2	112	2.05	G 0.120	1.78	—13	103.4	12
June 2	2.10	102.2	68	1.87	G 0.120	1.54	—18	100.4	24
15		Thyroxin Intravenously			Mg 1.0				
16	1.92	102.8	82	2.36	G 0.120	2.39	+1	101.4	20
July 6		Died							

TABLE NO. 3

RABBIT No. 3

Date	Wt	T	R	Met	Dose M	Met	% Change	T	R
Jan. 26	1.00	102.2	—	3.57	G 0.120	3.26	—9	102.2	—
28	0.96	102.4	—	3.38	G 0.180	3.36	0—	102.4	—
Feb. 4		Hemithyroidectomy							
9	1.00	103.2	—	3.48	G 0.120	2.84	17	99.6	—
11	1.00	102.2	—	3.15	G 0.120	2.38	25	100.0	—
16		Total Thyroidectomy							
28	1.15	102.8	100	2.34	G 0.70	1.60	—32	96.4	32
Mar. 4	1.10	102.4	112	1.74	G 0.120	1.31	—25	94.6	40
10	1.20	102.8	120	1.91	G 0.120	1.66	—14	96.2	24
16	1.22	Thyroid Feeding			Mg 30				
17	1.17	"	"		" 30				
18	1.15	"	"		" 30				
19	1.12	"	"		" 30				
20	—	"	"		" 30				
21	1.00	"	"		" 30				
22	—	"	"		" 30				
23	1.04	"	"		" 30				
24	1.00	"	"		" 30				
24	1.00	102.8	88	3.84	G 0.120	3.91	+2	98.8	22
Apr. 1		Died							

TABLE NO. 4

RABBIT No. 4

Date	Wt	T	R	Met	Dose M	Met	% Change	T	R
Mar. 10	1.80	103.0	120	3.15	G 0.110	2.57	—18	100.2	40
14		Total Thyroidectomy							
25	1.73	102.6	100	2.00	G 0.100	1.85	—8	99.0	28
Apr. 1	2.00	103.0	100	1.76	G 0.120	1.40	—20	99.2	36
5	2.03'	104.0	100	1.90	G 0.120	1.40	—26	99.2	36
18	1.98	Thyroid Feeding			Mg 60				
19	—	"	"		" 60				
20	1.86	"	"		" 60				
21	—	"	"		" 60				
22	1.66	"	"		" 60				
22	1.66	103.5	130	3.29	G 0.120	3.26	—1	101.8	40
May 17	2.08	101.0	100	1.90	G 0.120	1.60	—16	96.0	48
25	2.02	102.8	120	2.16	G 0.120	1.83	—15	98.0	16
27	2.03	Thyroid Feeding			Mg 60				
28	1.98	"	"		" 60				
29	—	"	"		" 60				
30	—	"	"		" 60				
31	1.88	"	"		" 60				
June 1	1.80	102.8	160	3.26	G 0.110	3.04	—7	101.6	20
3	1.74	103.6	160	2.84	G 0.110	2.76	—3	100.4	20
10	1.98	102.5	148	1.93	G 0.120	1.76	—9	101.6	24
15		Thyroxid Intravenously			Mg 1.0				
16	1.88	103.4	108	2.76	G 0.120	2.96	+7	101.2	20

TABLE NO. 5

Rabbit No.	Normal and Hemi			Complete Hypothyroid			Hyperthyroid		
	Before M	After M	% Change	Before M	After M	% Change	Before M	After M	% Change
1.	2.63	2.47	—6	2.22	1.58	—19	2.84	2.96	
	2.71	2.11	—22	2.10	1.42	—32			
	2.57	2.24	—13	1.80	1.59	—12			
Average	2.64	2.27	—14	2.04	1.53	—25	2.84	2.96	+4
2.	2.14	1.97	—8	1.94	1.80	—7	2.76	2.91	
	2.48	2.22	—10	1.89	1.57	—17	2.36	2.39	
	2.26	2.18	—4	1.85	1.55	—16			
	2.34	2.13	—9	2.05	1.78	—13			
	2.26	2.12	—6	1.87	1.54	—18			
Average	2.30	2.12	—8	1.92	1.65	—14	2.56	2.65	+4
3.	3.57	3.26	—9	2.34	1.60	—32	3.84	3.91	
	3.38	3.36	—0	1.74	1.31	—25			
	3.15	2.38	—25	1.91	1.66	—14			
Average	3.37	3.00	—11	2.00	1.52	—24	3.84	3.91	+2
4.	3.15	2.57	—18	2.00	1.85	—8	3.29	3.26	—1
				1.76	1.40	—20	3.26	3.04	—7
				1.90	1.40	—26	2.84	2.76	—3
				1.90	1.60	—16			
				2.16	1.83	—15			
				1.93	1.76	—9			
Average	3.15	2.57	—18	1.94	1.64	—15	3.13	3.02	—4

TABLE NO. 6

PERCENTAGE OF CHANGE IN METABOLISM—AVERAGE OF ALL DETERMINATIONS

Rabbit No.	Normal and Hemi			Complete Hypothyroid			Hyperthyroid		
	Before M	After M	% Change	Before M	After M	% Change	Before M	After M	% Change
1, 2, 3, 4	2.68	2.40	—11	1.94	1.60	—18	2.99	3.02	+1

Abbreviations:
Wt—Weight in Kilograms.
T—Temperature in Fahrenheit Degrees.
R—Respirations per Minute.
Met—Oxygen Consumption in Calories per Kilogram per Hour.
Dose M—Dose of Morphine in Grams.

THE GENERAL PRACTITIONER AND HIS WORK*

BY C. GUY LANE, M.D.†

I AM presenting herewith a statistical study of diagnoses made during my experience in the general practice of medicine over a period of eight years. During this time, after a college and medical school course and an internship of eighteen months in a large general hospital, I practiced medicine in a city of about 15,000 people twelve miles from a large eastern city and surrounded by numerous other cities and a number of towns. There was a small community hospital which gradually increased its capacity to fifty beds. The statistics of other physicians in the same vicinity could very well vary somewhat from mine, according to the type of practice to which each particularly catered. Thus I know that certain of my fellow practitioners had more obstetrical cases, others more genito-urinary cases, etc., but at the same time these figures represent fairly the work of the general practitioner.

*Taken in part from an address published in the American Medical Association Bulletin (April, 1929). Printed by request and by permission of Dr. Olin West.

†For record and address of author see "This Week's Issue," page 381.

The usual medical literature of the day shows comparatively few statistics of the work of the general medical man. The general occurrence of disease may appear from time to time in state board statistics, reports of hospital statistics, morbidity reports, etc., but I doubt if these truly represent a cross section of the many things, especially the minor details, about which physicians in general practice are consulted. On the basis of such figures, or from other sources, the medical school arranges its curriculum and allots the amount of time to be spent on the various courses, for the purpose of training young men in a well rounded manner for the general practice of medicine. The average medical student starts out his career and perhaps goes through most of the medical school with the idea of general practice in mind. It may be that a few begin with a definite specialty in view because of relatives or acquaintances in that particular field. These latter students gain a fair idea of the frequency of disease in this specialty from the special journals and from contact with others working in the same field. The other students, however, as I remember my own medical school days, have little idea of the relative frequency of disease in general. It is possible that these statistics and other similar studies may help in the proper allotment of time to subjects in medical school curricula and also give the student a better knowledge of the frequency of the disease conditions which he is most apt to meet.

During this period of eight years, in addition to my usual case records, I had been interested in keeping a diagnosis file, because I could always remember the diagnosis better than I could the person's name. This was kept up with a fair degree of accuracy except during an extremely busy period of approximately three or four months. This file contains about 6,200 diagnoses. Even with the best of intentions in regard to keeping this file up, I feel sure that numerous minor ailments were not entered. This occurred more frequently, I am certain, with respect to old patients who were returning with, for example, a fresh "cold" or a new tonsillitis.

I have divided my diagnoses, as well as possible, among the different specialties to which they belong. There will be, undoubtedly, some difference of opinion regarding the classification of certain diseases. Certain cases entered as surgical had only medical treatment. Many of the pediatric cases are probably listed under medical. The same is true, without doubt, in regard to other specialties. Further, more careful examination of individual records than I have been able to give will be necessary to arrive at the actual special group in which some of the cases should finally be placed.

The medical diagnoses form by far the largest group, some 2,500 in all (see table 2). These cases are classified in the following groups: conditions of the respiratory tract; diseases of the heart and blood vessels; disturbances of the gastro-intestinal system, and a rather large miscellaneous group which contains, I find, a number of symptoms as diagnoses.

TABLE 1

CLASSIFICATION OF DIAGNOSES AS TO SPECIALTIES

	No. of Diagnoses	Per Cent.
Medicine	2,499	40.0
Surgery	1,497	24.0
Pediatrics	345	5.6
Gynecology	156	2.5
Obstetrics	471	7.5
Dermatology	322	5.0
Laryngology	254	4.0
Otology	100	1.6
Ophthalmology	73	1.2
Neurology	274	4.0
Genito-urinary diseases	140	2.2
Orthopedics	81	1.3
Total	6,212	

The respiratory system is responsible for more than one-half of the medical diagnoses and numerous "colds" undoubtedly escaped being recorded. The tonsillitis cases are placed among the medical conditions because of the fact that tonsillitis is so often associated with infection of other parts of the respiratory system. Often more than one part was affected, but it was my custom to class the patient under the diagnosis which seemed to be the most important factor. Pharyngitis, also, has been classed among the medical cases, as it is often the most prominent symptom of the "cold." The few cases of tracheitis should probably be included with bronchitis.

The gastro-intestinal diagnoses include 261 cases of "indigestion," gastric, intestinal and gastro-internal, really a wide variety of conditions. I found only twenty-one cases of gastric ulcer and two of duodenal ulcers, and I wonder how many more were secreted in the patients in the other larger group just mentioned. Only fifty-nine cases of constipation are listed. There must have been more, but probably I have only put down the diagnosis in those coming for treatment of that alone. The corner drugstore and the patent medicine advertisements are the authorities consulted by the majority of our citizens in cases of constipation. I note too that I have used the rather indefinite terms diarrhea, colitis, etc. The six cases of cancer of the gastro-intestinal tract have been placed in the group of tumors under surgical conditions.

Among the cardiac conditions, endocarditis, myocarditis and arteriosclerosis account for most of the cases. There were eight of acute endocarditis. I saw thirty-four cases of acute articular rheumatism and nine cases of chorea. As I look back it seems to me that I saw more

TABLE 2

MEDICAL DIAGNOSES

Respiratory		*Gastro-Intestinal*		*Circulatory*		*Miscellaneous*	
Asthma	21	Cholecystitis	6	Aneurysm	2	Acidosis	6
Bronchitis	285	Colitis	25	Angina pectoris	18	Alcoholism	35
"Cold"	261	Constipation	59	Aortitis	1	Physical examination	72
Edema, lungs	1	Diarrhea	12	Arteriosclerosis	30	Goiter	3
Emphysema	1	Diverticulitis	1	Cardiorenal	3	Gout	2
Empyema	3	Fecal impaction	1	Endocarditis	58	Heat	9
Influenza	290	Gastritis	4	Decompensation	14	Hiccoughs	1
Hay-fever	5	Gastro-enteritis	9	Hypertension	3	Insomnia	6
Pleurisy	36	Indigestion	269	Myocarditis	44	Lead poisoning	3
Pneumonia:		Hepatic toxemia	1	Pericarditis	2	Nephritis	34
Lobar	78	Hyperacidity	1	Ruptured aorta	1	Obesity	2
Bronchial	8	Jaundice, catarrhal	4			Poisoning	24
Pulmonary:		Ptosis	5			Rheumatism	65
Embolus	1	Typhoid	24			Senility	4
Thrombus	1	Ulcer:				Banti's disease	1
Tracheitis	4	Gastric	20			Suffocation	1
Tuberculosis, pulmonary	36	Duodenal	2			Syncope	10
Tonsillitis	333					Tapeworm	
						Thyroiditis	1
						Tobacco	4
						Typhoid vaccination	18
						Vaccination	122
						Debility	75
						Diabetes	17
Totals	1,364		443		176		516

than fourteen cases of decompensation, but it is probable that there were repeated attacks in the same person. More cardiorenal cases are included among the cases of nephritis.

The miscellaneous group includes a wide variety of conditions. Debility, rheumatism, alcoholism, nephritis, poisoning and diabetes are the most frequent conditions. I was interested to find seventy-two patients who sought physical examinations; included in this group were applicants for insurance, applicants for the navy, candidates for the state guard, etc. The day of propaganda for periodic physical examinations had not arrived, but here is evidence that such examinations were made, though unfortunately not periodically. Antityphoid vaccine was used as a preventive in eighteen persons, while I saw twenty-four cases of typhoid during the same period.

I realized at the time, and I realize still more in reviewing these diagnoses, how unsatisfactory the diagnoses of indigestion, debility, etc., were and how necessary it was to have further observation, examination and study in many of the cases for proper diagnosis.

There is room for argument, of course, in regard to the disposition of some of the surgical diagnoses, in some as to whether they are medical, and in others as to whether they are orthopedic, etc. (see table 3). Not all patients with gallstones or appendicitis were operated on, but they are usually classed under the surgical disease group. The most impressive feature about these figures is the number of cases of trauma with which the general practitioner has to deal. It does not seem probable that this group has decreased any with the great increase in automobile accidents. The industrial accidents then were largely in the hands of one or two physicians in the community, and the percentage of such diagnoses among these men would be still larger. Other surgical conditions are classed under gynecologic, orthopedic, genito-urinary and the other specialties. Under carcinoma are included all cases of cancer, regardless of location, whether operation was performed or not. It seems probable that I saw more cases of hemorrhoids than I have recorded. The same statement applies to ulcer of the leg and varicose veins. As I have remarked before, it is natural that the more common matters would fail to be recorded. The dislocations were scattered over seven different joints, the shoulder having the largest number. Fractures included twenty-three different sites, and only three were compound. The radius was affected more often than any other bone, the humerus and clavicle being next in frequency. Foreign bodies include those in the eye, and these undoubtedly are the majority. Wounds of all sorts are included under one heading—lacerated, incised, punctured, etc. These classifications include only the clean wounds, the septic ones being classed in a separate group under infections. Peritonitis undoubtedly includes only the general type, for my impression is that there were more of the localized type among the cases of appendicitis and salpingitis.

There are, without question, numerous cases included under medical and surgical conditions which should be included in the pediatric group (see table 4). Tonsillitis, colds, pneumonia,

TABLE 3

SURGICAL DIAGNOSES

Trauma		*Infection*		*Abdominal*	
Abrasions	26	Abscess	130	Appendicitis	104
Amputations	7	Adenitis	66	Gallstones	49
Bullet wounds	5	Gas bacillus	1	Hernia	77
Burns	25	Ludwig's angina	1	Intestinal obstruction	9
Contusions	88	Osteomyelitis	5	Peritonitis	5
Dislocations	20	Paronychia	12	Floating kidney	2
Foreign bodies	69	Lymphangitis	6		
Bites (dog, etc.)	15	Periostitis	4		
Fractures	139	Phlebitis	14		
Hematomas	6	Septic wounds	98		
Sprains	39	Septicemia	1		
Strains	29	Tetanus	3		
Synovitis	15	Tuberculosis	7		
Tenosynovitis	9				
Wounds	189				
Epiphysitis	2				
Totals	683		348		246

Tumor		*Rectal*		*Miscellaneous*	
Carcinoma	21	Fissure	2	Concussion	1
Fibroma	5	Fistula	4	Ether	87
Lipoma	1	Hemorrhoids	28	Gangrene	8
Lymphoma	1	Polypus	1	Ganglion	1
Sarcoma	2	Prolapse	2	Ingrowing nails	6
Wen	11			Hemorrhage, postoperative	1
				Necrosis, jaw	1
				Teeth extracted	4
				Ruptured veins	3
				Ulcer, leg	13
				Varicose veins	7
Totals	41		37		132

TABLE 4

PEDIATRIC CASES

Contagious Diseases		*Congenital Conditions*	
Diphtheria	24	Anencephalus	1
German measles	26	Atelectasis	1
Measles	93	Cleft palate	2
Mumps	20	Heart	4
Scarlet fever	16	Hemorrhage	2
Whooping cough	18	Hypospadias	1
Varicella	16	Icterus	1
Totals	213	Liver	1
		Microcephalus	1
		Phimosis	14
		Polyp, umbilicus	2
		Pilonidal sinus	2
		Premature	4
		Pyloric stenosis	2
		Thymus	1
			39

Intestinal Disorders		*Miscellaneous*	
Cholera infantum	2	Chorea	9
Fermentative diarrhea	9	Enuresis	3
Intussusception	2	Malnutrition	5
Teething	7	Marasmus	1
Weaning	3	Rickets	2
Worms	5		
Feeding	45		
Totals	73		20

appendicitis, adenitis, indigestion, etc., have records which I am not able, at present, to separate into this group. For example, of seventy-seven cases of hernia I find that twenty-six were umbilical, and most of these were probably in babies. On the other hand, adults are included in the contagious group, but contagious diseases are all studied as a part of the pediatrics course. Vaccination, included under "medical" rather than here, was done mostly on children, as a requisite for admission to school. The gastro-intestinal group is, of course, too small because of the cases included among the medical cases. These figures, I am afraid, give a poor idea of the importance and frequency of pediatrics in the general practice of medicine. This is most true of the gastro-intestinal and respiratory conditions. I hope some time to go through the records and indicate a more correct value for these conditions.

The figures in table 5 indicate to some extent a busy part of the physician's life—the obstetric life so to speak. Not all the pregnancies were delivered, but the largest part of them, probably 90 per cent. or more, were. Not all the complications of pregnancy or the accidents of delivery appear in these statistics. The many lacerated perineums, for example, were repaired and not entered as a diagnosis. The cases of lacerated perineum and cervix here listed are simply the cases in which the patients visited me because of symptoms at some later period. I believe that there were more of these, as well as more displacements of the uterus which are not recorded.

The figures for the frequency of the various skin diseases are close to those given by Hazen

TABLE 5

GYNECOLOGIC CASES

Miscellaneous		*Obstetric*		*Inflammatory*	
Amenorrhea	2	Eclampsia	4	Endometritis	9
Caruncle	3	Hemorrhage postpartum	2	Metritis	1
Cervix lacerated	4	Hydramnios	1	Ovaritis	2
Cyst, ovarian	7	Mastitis	12	Salpingitis	27
Cystocele	3	Miscarriage	71	Vaginitis	1
Dysmenorrhea	23	Placenta adherent	2		
Extra-uterine pregnancy	3	Placenta previa	1		
Fibroid	12	Pregnancy	367		
Menopause	26	Puerperium	7		
Menorrhagia	9	Twins	4		
Uterine polyp	1				
Prolapse	9				
Rectocele	2				
Sterility	1				
Uterine displacement	5				
Perineum lacerated	6				
Totals	116		471		40

TABLE 6

CASES OF SKIN CONDITIONS

Miscellaneous		*Infections*		*Tumors*	
Acne	20	Anthrax	5	Cyst	4
Acne rosacea	2	Carbuncle	14	Epithelioma	17
Callositas	1	Erysipelas	7	Keloid	1
Clavus	1	Furunculosis	15	Angioma	4
Dermatitis	48	Impetigo	29	Moles	1
Dyshidrosis	1	Lupus	2	Papilloma	1
Eczema	31	Pediculosis	5	Verruca	11
Erythema multiforme	3	Scabies	2		
Erythema nodosum	2	Tinea	9		
Erythema, toxic	2				
Erythema	1			Total	39
Herpes	15				
Hyperhidrosis	1				
Lichen planus	1				
Molluscum	1				
Mosquito	1				
Pernio	1				
Pityriasis rosea	3				
Pruritus	7				
Psoriasis	6			Syphilis	12
Purpura	3				
Seborrhea	1				
Sunburn	1				
Urticaria	24				
Vaccinia	1				
Xeroderma	1				
Drug	4				
Total	183	Total	88		

(see table 6). It is noteworthy that a diagnosis of syphilis was made in only twelve cases. The usual figures for the frequency of syphilis give a much larger percentage of cases in regard to the population. If careful questioning had been done and Wassermann tests taken, I do not doubt that more cases would have been found. The infectious diseases of the skin, together with dermatitis, eczema, urticaria and acne form the largest part of the skin diseases seen by the general practitioner.

Among the throat cases (see table 7) should be included, perhaps, numerous cases of pharyngitis which have been listed among the "colds" in the medical conditions. The tonsillitis cases I have preferred to place there also. The tonsil and adenoid group looks small as I look back, and I am certain that there were more children with this diagnosis than I indicated. Undoubtedly some of them are classed as hypertrophied tonsils in the tonsillitis group. The eye and ear cases are comparatively few because so many patients are apt to go of their own accord to specialists. They are referred perhaps more often than any other group.

The nerve cases as a group (see table 8) presented more difficulty to me both in diagnosis and in treatment than any other group. It seems to me as if one is more apt to make a diagnosis of symptoms in these cases. The apprehension group corresponds to a "no disease" group, for it has been my habit to put in this class those whose examination was negative. They were for the most part normal mentally, though there were a few with real phobias. Perhaps they should be included among the medical diagnoses. Neuralgia, a vague term, I believe, cerebral hemorrhage and neurasthenia account for another large group.

I have little comment to make on the genito-

TABLE 7

CASES OF NOSE, THROAT AND EAR DISORDERS

Mouth and Throat		*Eye*		*Ear*		*Nose*	
Adenoids	22	Blepharitis	1	Cerumen	28	Deviated septum	7
Gingivitis	2	Chalazion	5	Deafness	1	Epistaxis	14
Glossitis	2	Conjunctivitis	24	Labyrinth disease	1	Ethmoid	1
Hemorrhage:		Ecchymosis	1	Mastoid	5	Sinus	24
gums	1	Ectropion	1	Otitis media	64	Perforated septum	2
throat	1	Glaucoma	2	Tinnitus aurium	1	Polypi	10
Laryngitis	96	Hordeolum	2			Turbinae hypertrophied	1
Peritonsillar abscess	24	Iritis	1				
Pyorrhea alveolaris	1	Refraction	4				
Retropharyngeal abscess	1	Ulcer, corneal	2				
Stomatitis	13	Foreign body	30				
Tonsils and adenoids	28						
Tonsil ulcer	2						
Uvulitis	2						
Totals	195	Total	73	Total	100	Total	59

TABLE 8

NEUROLOGIC CASES

Poliomyelitis	4	Aphasia	1	Dementia praecox	5
Meningitis	4	Apprehension	37	Dementia, senile	1
Total	8	Tumor	1	Insane	15
		Paralysis	1	Melancholia	3
		circumflex	1	Neurasthenia	23
		facial	3	Paresis, general	1
		Defective	1	Total	48
		Delirium tremens	2		
		Epilepsy	9		
		Hemorrhage, cerebral	26		
		Hysteria	14		
		Migraine	11		
		Nervous exhaustion	4		
		Neuralgia	65		
		Neuritis	14		
		Neurosis	3		
		Occupational neuritis	3		
		Sciatica	15		
		Cerebral thrombosis	1		
		Traumatic neurosis	4		
		Vertigo	2		
		Total	218		

urinary group (see table 9). I was inclined to shift the responsibility on these cases by sending them to the hospital or specialist, much as I did the eye and ear cases. I felt in these cases, and also the nerve cases, the lack of the special knowledge necessary to deal with them. Perhaps it was the failure of the hospital work to fix the diagnosis and treatment in my mind as it did with diseases of other systems.

If fractures and dislocations were included in the orthopedic group (see table 10) there would be considerable change in the figures. Perhaps bursitis should be classed as surgical. Possibly synovitis should be listed here. Most of the cases of poliomyelitis become orthopedic later. In regard to lumbago, my own criticism at present would be, "I wonder how many of those were sacroiliac—renal conditions, or something else." I agree that this diagnosis is weak in many instances, but I believe it is common in general practice and perhaps covers several different entities.

In connection with this study of the occurrence of various diseases as seen in general practice I have been examining the catalogues of five medical schools which happened to show in detail the number of hours devoted to each subject, as well as the total number of hours of instruction. These schools are all class A schools, but otherwise no attempt at selection was made. There is considerable variation in the total number of hours devoted to instruction 4,271, 4,385, 5,648, 4,365 and 3,889,—an average of 4,500 hours for the four years of medical school work. The average time devoted to fundamental and laboratory work is 1,800 hours, leaving for the clinical work 2,700 hours. For purposes of comparison I have applied to the latter figure

TABLE 9

GENITO-URINARY CASES

Inflammatory		*Miscellaneous*	
Balanitis	3	Calculus	15
Chancroid	1	Emissions	2
Cystitis	26	Hydrocele	10
Epididymitis	10	Impotence	1
Gonorrhea	15	Prostate	14
Orchitis	3	Retention	6
Pyelitis	14	Stricture	3
Pyelonephritis	1	Varicocele	5
Urethritis	9		
Vesiculitis	2		
Total	84	Total	56

TABLE 10

ORTHOPEDIC CASES

Bursitis	2
Coccydynia	1
Curvature of spine	2
Flatfoot	18
Lumbago	44
Spurs—os calcis	1
Toe in	1
Torticollis	12
Total	81

TABLE 11

SHOWING NUMBER OF HOURS TO BE DEVOTED TO A SUBJECT IF OCCURRENCE IN GENERAL PRACTICE IS A STANDARD

Study	Per Cent. of General Practice Diagnoses	Hours of Instruction With 2,700 Clinical Hours
Medicine	40	1,080
Surgery	24	648
Pediatrics	5.6	151
Gynecology	2.5	67
Obstetrics	7.5	202
Dermatology	5	135
Laryngology	4	108
Otolaryngology	1.6	43
Ophthalmology	1.2	32
Neurology	4	108
Genito-urinary conditions	2.2	59
Orthopedics	1.3	35

(2,700) the percentages obtained from the general practice statistics given in table 1. It would be of interest to use the figures given in such a table (See Table 11) as a standard of comparison with the amount of time allotted to the various subjects in the different schools. There should be obviously a rather close correlation between the time devoted to the study of a subject and its frequency in the general practice of medicine. I do not mean this particular set of figures to be an arbitrary standard, for I realize that this represents only one individual and one locality, but with other similar statistical studies from different sections of the country, beneficial changes in our courses of study might be suggested.

COMMENT

I have presented these figures of a rather busy general practice, at least in the last four years of the period, with a view to contributing a mite to the cause of medical education. I am sorry that they are not more accurate, especially in respect to the pediatric cases. In addition to these figures, there are other matters relating to the general practice which these experiences have emphasized to me.

Two important parts of my medical training followed the medical school. The first was my internship. I look back on it, not only for its value in shaking down my medical knowledge and adding to it by adjusting the theoretical to the practical, but also for its value in furnishing contact with patients and their relatives and in giving the opportunity for responsibility in the care of sick persons. The hospital emphasized the human side of medicine, whereas the medical school stressed the scientific aspect, and perhaps rightly so.

The second factor was the affiliation with my father, a general practitioner of many years' standing. The experience was one to be treasured. It was an exemplification of the art of medicine. His knowledge of people, his wide clinical experience with disease and its treatment, his fund of information derived from keen observation and the application of common sense to medical problems more than made up for the deficiencies of scientific facts. I consider it as a most valuable experience and privilege to have traveled about with him after completing my internship. A similar experience would be a valuable asset to the medical student today, but no medical school gives it,* and perhaps cannot give anything comparable to such an experience. It is possible that apprenticeship to a few busy general practitioners could be arranged, though I do not know that it is done. I have wondered whether a series of lectures by successful general practitioners—real ones from the smaller cities—would be of any service. It is doubtful if such information can be conveyed by lectures. Actual observation in the homes and sickrooms and office is almost essential. While such an apprenticeship is, as a general rule, out of the question as an official part of the curriculum, possibly a few such affiliations could be arranged for short periods after the hospital work, with benefit to both parties.

I am sure that these figures emphasize the need of more attention to the minor details—the minor ailments, accidents and illnesses. The tendency is to skip over them for the more important and bigger things, but it has been my impression for a long time that it is the small and minor things which play a big part in the physician's practice. The importance of minor traumatic surgery is especially to be noted.

I also felt the need of more practical preventive medicine and more of it. More stress is laid on it today, and well it should be. The opportunities for its use are greater, and, indeed, the soil for its reception is much more fertile, I believe, in general. Greater emphasis on the hygienic study of the patient and the minor matters mentioned above would be of far-reaching practical value.

Another lack which I felt was in regard to the business of medicine. I had had no business training in school or college, and no opportunity to learn a thing of business methods. I believe medical students should have something about keeping records, record systems for private practice, medical bookkeeping, collecting, investments, etc. Even a voluntary course would be well attended, to say nothing of its value.

The use of social agencies in city or town is another subject which is, perhaps, understood better today. The field has broadened much since the war. The technic varies in different localities and states, but their importance in medical work has been demonstrated, and more attention to these therapeutic aids is undoubtedly paid at present.

There was also greater need of more correlation between the laboratory or fundamental part and the clinical and therapeutic part of medical school training. I am sure that the absolutely sharp line between the laboratory—anatomy, physics, chemistry, pathology, etc.—and the clinical work is not the best method. The two parts should be much more closely related. The laboratory and the patient need to be kept together, perhaps not at the very start of the medical school course, but at least by the beginning of the second year. It is possible that the use of patients occasionally before that time will help to demonstrate the clinical application of some fundamental laboratory problem and fix it more firmly in the mind.

*A recent letter from a friend states that this method of preceptorship has been used with the senior class in the University of Wisconsin for definite periods of weeks to approved preceptors throughout the state, and thus far it appears to have given satisfaction to student and preceptor alike.

SUMMARY

1. Figures are submitted showing the frequency of diseases in general practice.

2. These percentages are applied to an average curriculum to indicate an apportionment of time to various subjects.

3. Close correlation between the frequency of diseases and the actual hours of instruction is emphasized.

4. The value of hospital internship and apprenticeship to the busy physician is emphasized.

5. Suggestions are given, based on personal experience, for the improvement of the curriculum in minor details.

AN OUTBREAK OF MILD SMALLPOX IN A MASSACHUSETTS COMMUNITY

BY RICHARD P. MAC KNIGHT, M.D.,† AND CLARENCE L. SCAMMAN, M.D.* †

DURING January, February and March and up to April 24th a community with a population of about 10,000 reported 65 cases of chicken pox. On April 24th, on account of the atypical appearance of some of the more recent cases, the Department was asked to send someone to consult with the local physicians.

TABLE I

AGE AND SEX

Age	Male	Female	Total
Under 1	—	1	1
1-4	5	5	10
5-9	15	17	32
10-14	32	23	55
15-19	36	22	58
20-29	16	14	30
30-39	3	6	9
40-49	10	5	15
50-59	3	5	8
60-69	2	—	2
70-79	1	—	1
80-89	1	—	1
Unknown	—	1	1
Total	124	99	223

During the afternoon and evening of April 24th, Dr. E. H. Place, Superintendent of the South Department, Boston City Hospital, and two members of the State Department of Public Health saw more than 15 cases, all of which were undoubtedly smallpox. A joint meeting of the local Board of Health and School Committee was called that evening and the Board of Health passed an emergency order, under Section 181 of Chapter 111 of the General Laws, requiring that all the inhabitants be vaccinated. About twelve physicians assisted by an equal number of nurses, vaccinated about 9,600 individuals in the next three days. The percentage of "takes" outside the school population was about 92. Of just under 1,500 school children vaccinated, 95 per cent. had "takes".

Table I shows the age and sex distribution of the cases.

The total cases occurring in this outbreak within the community numbered 223, of which only two had ever been successfully vaccinated, and these more than thirty years ago. There were no deaths. The 223 cases occurred in 113 families totalling 620 individuals.

Table II shows the percentage age distribution of chicken pox in Massachusetts from 1924 through 1928, compared with the percentage distribution of smallpox in this outbreak. The most significant fact in this table is that about 86 per cent. of the cases of chicken pox occurred in the age group 0-9, while in this outbreak of smallpox, but 19 per cent. of the cases occurred in the same age group.

TABLE II

PERCENTAGE AGE DISTRIBUTION OF CHICKEN POX IN MASSACHUSETTS 1924-1928 — SMALLPOX IN THIS OUTBREAK

Age	Chicken Pox in Massachusetts Per cent. at age		Smallpox in Massachusetts Per cent. at age	
0-4	29.2	86.2	4.9	19.3
5-9	57.0		14.4	
10-14	9.3		24.6	
15-19	2.0		26.0	
20+	2.5		30.1	

Most of the cases were very mild and of the discrete type. About 30 per cent., however, had definite prodromal symptoms, with headache, backache, nausea and vomiting, and in a few instances, sore throat. The temperatures in some of this group were known to have been as high as 104° during the prodromal stage. Four cases were of the semi-confluent type.

Of 23 contact cases which developed outside the community, 22 were in nearby towns in Massachusetts and 1 in New York City. Of these but 4 had ever been previously successfully vaccinated, and these more than twenty years ago.

The 223 cases occurring in the community had their onsets as follows: 1 in January, 5 in February, 40 in March, 144 in April, 33 in May. None of the cases living within the community had an onset after May 5th. Forty-one cases with onsets between April 24th and May 5th were distinctly modified by vaccination. Nineteen of these 41 cases had their onset within

*Massachusetts Department of Public Health.

†For record and address of author see "This Week's Issue," page 381.

three days after being vaccinated. Tables III and IV show the dates of vaccination and eruption of these 41 cases in relation to the onset of the disease. None of these had an onset more than ten days after vaccination.

TABLE III

Number of Days After Vaccination Onset Occurred	
Same day	5
1 day	6
2 days	5
3 "	3
4 "	4
5 "	5
6 "	6
7 "	2
8 "	3
9 "	1
Unknown	1
Total	41

TABLE IV

Number of Days After Onset Eruption Occurred	
3 days	11
4 "	6
5 "	6
6 "	6
7 "	2
8 "	1
Date of eruption unknown	9
Total	41

The onsets of the 23 contact cases outside the community varied from March 16th to May 27th. Seven were modified by vaccination.

In a study of the cases to determine the source of the outbreak, it was necessary to depend upon the stories of individuals concerning events which in the important instances took place more than two months before. The first case in this outbreak apparently occurred some time in January, the exact date could not be established. The source of infection in this case was not known, nor could it be discovered. On December 24th, 25th and 26th, a person sick with smallpox, whose home was in Massachusetts, visited the community and had intimate contact at a Christmas dinner and the day before and after with a group of fourteen people. At that time the names and addresses of all the *known* contacts were given and the individuals either vaccinated and placed under daily medical observation, or quarantined in case they refused vaccination. None of the individuals either quarantined or under observation came down with smallpox at the end of the period of twenty-one days from the date of their last exposure. It is, of course, possible that all the contacts with this case were not known and that one or more contacts unknown developed the disease within the community and that this may have been the source of the outbreak. Every effort was made to establish this but it was impossible to do so.

In 1928, the New England states reported 302 cases of smallpox, distributed as follows: Connecticut, 170; Maine, 99; Massachusetts, 19; New Hampshire, 2; Rhode Island, 0; Vermont, 12. So far this year (to July 1, 1929), Massachusetts has had reported 272 cases of smallpox. 245 of these were concerned with the community outbreak here reported. 223 of these cases were within the affected community, while 23 were contact cases which developed outside this community. One case developed in New York City which had direct contact with a case in this outbreak. 272 cases of smallpox are more cases of this disease than Massachusetts has had reported in any previous year in the last twenty-six.

Massachusetts has had a compulsory public school vaccination law with an exemption clause since 1855. The community in which this outbreak occurred had evaded this law, for as mentioned above, of just under 1,500 school children vaccinated, 95 per cent. had "takes".

SUMMARY

A total of 223 cases of smallpox occurred in one community with a population of about 10,000 over a period of four months. There were no deaths. The disease was confused with chicken pox on account of its mildness. Of the 223 cases, but two had ever been previously vaccinated, and these more than thirty years ago. Of the 23 contact cases occurring outside the community, four had been vaccinated, but all of them more than twenty years before. This particular community was one in which the compulsory public school vaccination law had been evaded for a number of years. Following almost complete vaccination of the community on April 25th, 26th and 27th, no known cases occurred within its borders with an onset after May 5th.

Acknowledgment is made of the assistance of the State District Health Officers, Drs. Oscar A. Dudley and George M. Sullivan, in collecting data in the field. The help and assistance of Miss Angeline Hamblen, Statistician, in making tables and gathering other data is also acknowledged.

THE PHYSICIAN SPEAKS FOR HIMSELF CONCERNING VENEREAL DISEASES

BY E. GRANVILLE CRABTREE, M.D., F.A.C.S.*

DURING the past year there has been in existence a joint committee appointed by the Massachusetts Department of Public Health and the Massachusetts Society for Social Hygiene, to serve as a medical advisory committee to study medical problems in venereal disease control. This committee consisted of Dr. Austin W. Cheever, Dr. Harry Goodall and myself. Among the many important causes found contributory to the present unsatisfactory situation in regard to control of venereal diseases inadequacy of treatment of infected cases stands out prominently. Where medical services are of the highest quality obtainable, as well as under less

*For record and address of author see "This Week's Issue," page 381.

satisfactory situations, that venereal disease patients do not often remain under treatment until pronounced cured remains the outstanding fact. This situation obtains both in private office treatments and in large clinics, except under the most persistent prodding by social workers and physicians to keep the patients regular in their visits. Social irresponsibility is accountable for this situation in some instances; a second cause seems to be ignoranee on the part of the patient of the requirements for cure; perhaps most common of all causes, is that the patient is not able to choose clearly for himself from the mass of information and misinformation at his disposal, and often even medical disagreement, what his course should be. A conversation with a patient who, while traveling, has received treatment in many towns and cities, is instructive in that it shows impressive lack of uniformity in advice and treatment given him and even in lack of agreement among his advisers on details of such significance as the stage of the disease, particularly where infectiousness and cure are in question. Small wonder that the dogged persistence required for combatting a discouraging disease is lacking in such patients whose experience and information is so totally confusing.

Large clinics, while productive of immense good and indispensable, have the problem of routine to combat.

In these days of clinics the impression is common that the venereal diseases are treated by specialists for the pay patient and that clinics treat the poor. Any physician will tell you that he treats the occasional case of venereal disease as a part of his duty but does not see many such cases. State Departments of Public Health and Social Hygiene organizations have to date made a limited number of surveys, whieh do not pretend to be a census of the country at large but are instructive in that they point the way. Aecording to the available data from such sources, it seems fair to assume that 75% of the total venereal disease eases are in the hands of private physicians and over 50% in the hands of the general practitioner. A few figures are instructive. In Tennessee 80-90% of the acute gonorrhoea and 76% of early syphilis is being treated by the local physicians. A survey of the city of Cleveland shows 67% of gonorrhoea and 50% of all stages of syphilis are treated privately. A survey made of one town in Massachusetts, June 13, 1928, is illustrative of conditions near home. There were 72 physicians and no specialists in venereal diseases. On the day of the survey 61 cases of syphilis were being treated under private physicians and 77 cases in clinics. Physicians were treating 117 cases of gonorrhoea and clinics 16. On the 13th of June, physicians were treating 178 of the 271 cases of venereal disease in town.

Let it be understood that there is no quarrel with this situation. Clinics should serve at public expense only those who are unable to pay for the services of a physician. The patient must continue to feel free to take his problem, of whatever nature, to his family physician if and when he desires, and the physician must meet that demand. The practitioner, however, can not ignore progress in treatment of venereal disease, if he discharges the obligations placed upon him by his acceptance of the patient. We must all recognize the inability of the practitioner to become a specialist in all phases of medicine and surgery. It is the duty of some organization to supply him with information of definite nature for guidance in treatment and with new procedures as they become available. It does not seem now even a probability that all venereal disease will ever be treated by specialists only.

Let us also recognize that there has developed a new consciousness of the importance of the venereal diseases as a public health problem. The crowded four years of medical school have not room in the schedule for more than a limited amount of instruction in treatment and practically none at all for social and public health aspects of the venereal problem. Care of the individual is, no doubt, of great importance, but prevention of infection and early recognition of infection seem of far greater importance. Protection of others, running down all possible contacts, and family problems in diseases in which publicity is undesired are practically untouched in actual fact except in the clinics. The physician who takes a careful history of contact in tuberculosis and acts on that information has not been trained in his school to consider the venereal diseases in the same manner. A recent survey of the Klamath Falls Indian reservation in Oregon showed 4.8% venereal disease (chiefly syphilis), and 4.3% tuberculosis. There is little to choose between late tuberculosis and late syphilis in vital statistics.

Older practitioners handling "only an occasional case" of venereal disease, unless specially interested to the extent that they have supplemented medical school instruction by special study, are not able to render to the patients whom they must of necessity see, a service which represents present day medicine and sociology. One gets the impression that venereal diseases are, in some manner, held to be an adjunct of medicine, in some way different from other forms of disease, and certainly are in many instanees an unwelcome part of the medical practitioner's work.

I, as chairman of the medical advisory committees mentioned, conceived the idea that the practitioner himself might be given a chance to express himself in regard to venereal diseases. I sent to 168 medical practitioners with whom I am personally acquainted and with whom I have seen patients in consultation, the following questionnaire:—

1. Do you treat syphilis?
2. Do you treat gonorrhea?
3. Do you treat by preference or because you feel you should?
4. What factors interfere most with adequate treatment of the individual?
5. What help could the medical profession or the State give you?
6. Do you feel that a demonstration clinic two days each year in which practical methods of treatment were demonstrated and progress in medication, etc., reported, would be worth while?
7. Do you favor or oppose "specialization" in venereal disease in town? —in communities?

One hundred and six physicians replied to the questionnaire. This study is an analysis of their observations.

GEOGRAPHICAL DISTRIBUTION OF THESE PHYSICIANS

Forty-nine communities were represented by the 106 physicians;—twenty-five cities and twenty-four towns. Representation from communities of various sizes was as follows:—

TABLE I

Size of Community	Number of Communities	Number of Physicians
Under 10,000 population	15	16
10,000 to 20,000	10	20
20,000 to 30,000	5	11
30,000 to 50,000	7	18
50,000 and over	12	41

Only eleven of the 106 physicians were located in Boston; twenty-eight were practising in communities in the Metropolitan area outside Boston, including Cambridge, Somerville, Everett, Malden, Melrose, Revere, Chelsea, Arlington, and Newton; and the remaining 67 were located in communities all over the State, from Yarmouth on the Cape to Gloucester and Haverhill on the north, and westerly to Pittsfield. Therefore, the replies should provide a cross-section of opinion in communities of all sizes and from all parts of the State, rural and urban.

PHYSICIANS TREATING VENEREAL DISEASE

Eighty-one physicians (76.4%) treat venereal disease and twenty-five (23.6%) do not. Seventy-seven (72.7%) treat gonorrhea and fifty-eight (54.7%) treat syphilis. Twenty-three (21.7%) treat only gonorrhea and four (3.8%) treat only syphilis. Fifty-four (50.9%) treat both diseases.

TABLE II

Disease Treated	Number of Physicians	Per Cent. of 106
Neither	25	23.6
Either or both	81	76.3
Gonorrhea	77	72.7
Gonorrhea only	23	21.7
Syphilis	58	54.7
Syphilis only	4	3.8
Both gonorrhea and syphilis	54	50.9

REASON FOR TREATING VENEREAL DISEASE

Only ten physicians (12.3% of those who treat) treat venereal disease by preference. Two of those treat only syphilis and eight treat both diseases. Seventy (86.5% of those who treat) do so because they feel they should. One did not reply to this question.

Of the seventy who treat venereal disease from a sense of duty, one expressed a definite dislike; six stated that they dislike to treat those diseases in the same office with general practice; one, that he treated gonorrhea as an accommodation; and one had no reluctance to treating either disease.

TABLE III

Reason for Treating	Number of Physicians	Per Cent. of 81
Preference	10	12.3
Obligation	70	86.5
Non-committal	1	1.2

FACTORS INTERFERING WITH ADEQUATE TREATMENT

Sixty-nine physicians, including six who do not treat venereal disease and the ten who treat by preference, gave as a reason for inadequate treatment, the patient's failure to return. Twenty-seven did not modify this statement. Seventeen emphasized the unwillingness or the inability of the patient to pay as a factor. Ten believed a cause to be the patient's ignorance of the seriousness of the diseases, espsecially after visible lesions, discharge or troublesome symptoms have disappeared. Five others considered both economics and ignorance to be factors. Three mentioned secrecy and two added ignorance to secrecy. Considered in another way, sixty-nine definitely held the patient responsible by failure to return for treatment; twenty-five emphasized economics; twenty, ignorance; and five, secrecy as factors in this failure to return.

Six physicians felt that drug-stores and "quacks" are keeping patients away from proper treatment.

TABLE IV

Reason for Inadequate Treatment		Number of Physicians
Failure of patient to return		69
Economic reasons	25	
Ignorance	20	
Secrecy	5	
Drug-store and "Quack" treatments		6
Inexperienced physician		12
Inadequate office equipment		9

On the other hand, eighteen physicians specifically questioned the experience and equipment of the general practitioner as sufficient for the adequate treatment of venereal disease. Nine of these emphasized inexperience; six, inadequate equipment; and three, both inexperi-

ence and inadequate equipment. It is interesting to note that these criticisms come from the general practitioners themselves, since only two of the ten "specialists" offered criticisms of this nature.

DESIRE FOR DEMONSTRATION CLINICS

Eighty-nine physicians (84%) desire demonstration clinics. Thirteen definitely opposed them (three giving no reason), and four did not reply to the question. Of the thirteen who were opposed, ten gave the following reasons:—

1. Those interested keep informed; the others would not attend.
2. Conscientious physicians give good treatment; others do not worry.
3. I refer all my cases.
4. Wouldn't amount to anything.
5. If specialization were increased, they would not be necessary.
6. Send patients to special centers rather than ask all physicians to specialize.
7. Spasmodic panaceas do not come up to expectations.
8. All physicians are not honest; either ignorant or mercenary.
9. Should question its value.
10. Those physicians with medical conscience do not need them; to those without it, they would be useless.

Two of the thirteen opposing demonstration clinics were "specialists" (answers No. 2 and 10), one was the physician who definitely dislikes to treat venereal disease (answer No. 6) and four do not treat venereal disease at all (answer No. 9; three gave no reason).

HELP WANTED FROM THE MEDICAL PROFESSION AND STATE

Fifty-two (49%) of the 106 physicians had one or more suggestions as to how the medical profession or the State might aid them. Twenty-four made no reply. Fifteen indicated that no help was wanted, but thirteen of these did ask for demonstration clinics. Fourteen had no suggestions, but thirteen of these want the clinics.

Those who made definite suggestions emphasized the following:

1. Education of Physicians		23
Through literature, etc.	14	
Post-graduate clinics	8	
Better medical school training	1	
2. Educate the public		12
Generally	8	
Patients	3	
Teach prophylaxis	1	
*3. Increase clinics for patients		10
4. Encourage specialization		1
5. Consultation service		2
6. Increase laboratory service		3
7. Free arsenicals		3
8. A specific for gonorrhea		1
9. Abolition of drug-store treatment		2
10. Co-öperation		2
11. Change human nature		1

*It is interesting that in one city which formerly had a venereal disease clinic, three of the seven physicians replying, requested that the clinic be re-opened.

SPECIALIZATION

Sixty-eight of eighty-three who replied to this question favored specialization in venereal disease in towns and seventy-seven of eighty-nine favored it in cities. Of the ten who opposed it for towns and the thirteen who opposed it for cities, nine opposed it in both; five opposed it for towns only; one opposed it for towns and questioned it for cities; and one opposed it for cities but did not reply on towns.

Nine physicians who were opposed gave no reason for their position. Seven specified their opposition as follows:

1. Impracticable. Bulk will always be done by general practitioner unless forbidden by law.
2. Specialists could not make a living in town this size (15,000 population).
3. Not in towns under 20,000 population.
4. Any well-trained general man can do as well.
5. Specialization leads to abuse. Rank and file should carry on.
6. Not in towns and small cities on account of publicity.
7. Specialization becomes too expensive.

SUMMARY AND CONCLUSIONS

Of 106 physicians from representative communities in the State of Massachusetts, eighty-one (76.4%) treat venereal disease, but only 10 (12.3% of the eighty-one) by preference.

Sixty-nine physicians believed that failure of the patient to return constitutes the reason for inadequate treatment, economic conditions and ignorance being predominating factors in this failure to return.

Eighteen physicians find inexperience and incomplete equipment of the medical profession to be a contributory factor and eighty-nine (84%) indirectly admit the need for further training by asking for demonstration clinics. Twenty-three of these further specifically request the education of the physician in the modern treatment of venereal disease.

Twenty-eight physicians indicate the need of public education either by stating that patients fail to return for treatment through ignorance or by definitely requesting public education.

Only a small minority, sixteen, of the physicians definitely oppose specialization. The seven who explained their opposition were divided between (1) impracticability in small communities because of publicity and inability to make a living at a specialty and (2) a feeling that the general practitioner can do as well.

It is evident that a large majority of practitioners treat venereal disease but that few desire to do so; that those who are not specially trained recognize the fact and desire to be trained, but would rather refer their cases to specialists if they were more generally available.

It is evident that the patient requires instruction which will convince him of the necessity for remaining under treatment even though the disease is no longer symptomatic and that some provision must be made in communities which have no clinics for the treatment of patients not able to pay.

VERMONT STATE MEDICAL SOCIETY

SOME OF THE PITFALLS IN THE PHYSICAL EXAMINATION OF INFANTS AND CHILDREN*

BY JOHN LOVETT MORSE, M.D.†

Mr. President and Members:—

I GOT my training in medicine at a time when the diagnosis depended on the intelligent interpretation of the history and findings on physical examination. At present the tendency in our medical schools is to emphasize the importance of laboratory procedures and to minimize the importance of a detailed history and a thorough physical examination. The result is that a generation of physicians is growing up that trusts implicitly in the findings of the laboratory and is almost helpless without them. They do not realize that just as many mistakes are made in the laboratory as in the field and that in actual practice they must, in most instances, make their diagnoses and treat their patients without the aid of a laboratory. You, most of whom practice in rural communities, know well that this is true. You also know that, in most instances, you can do justice to your patients without calling on a laboratory to help you. Being unable to call upon a laboratory at any moment, and knowing that you must make your diagnosis with the help of your five senses and the use of your brains, you appreciate the importance of physical examination and of being expert in it. This is my excuse for discussing this somewhat trite and most unfashionable subject before you. I could easily take up the whole morning talking about the physical examination of infants and children, but, having only twenty minutes in which to talk, I shall try to pick out some of the more common and important of the pitfalls in physical examination and speak only of them.

In the first place, it goes without saying, or should, that it is impossible to make a good physical examination of a baby or child without stripping it. You cannot make a proper examination of the lungs by pulling up the shirt in front or the night gown behind. It is hard enough anyway to make a satisfactory physical examination. I have never forgotten what Dr. Gannett told us when we were studying auscultation and percussion: that was, "Always give yourself the best chance". Strip your child and put your patient in the best position, and so give yourself the best chance. My experience is that most of the mistakes which I have made, as well as most of the mistakes which I have seen other people make, in diagnosis have been due to laziness or carelessness, not to ignorance. I am sure that this is so. We let something get by, which we know we ought to do. I remember one instance, right now, that occurred in my own office. It looked as if this baby had peritonitis, but yet I was not sure. I knew that I had seen similar symptoms with pyelitis. Nevertheless, I was too lazy to boil up a catheter and sent it to the hospital with the diagnosis of peritonitis. It was catheterized at the hospital and found to have pyelitis.

In examining babies and children you have to approach them in the right way. If you approach them in much the same way that you approach your own children or as you would come up to a kitten or a puppy dog, you will get along with them. If you act as if you were afraid of them, or they were afraid of you, you will not. Remember that, although they are patients, they are human beings, not animals, specimens, or cases, and treat them like human beings.

The first thing to be noticed is the child's nutrition and development. It is not difficult to learn, by watching children, to be able to make a good estimate as to a child's nutrition and development without weighing the child. Almost everybody, however, now uses the tables of weights and heights. The tables are all right; the difficulty is with the people who use them. They forget that these are simply average figures, not the normal. They are made up from children of all sizes, races and conditions of society. Some of them were sick, some were well. It would be strange if any individual child happened to be the average. A Shetland pony is just as normal as a cart horse, but its size is not the same. That is one advantage which you general practitioners have; you know how big the parents and grandparents are. The important relation is not that of the height and weight to the age, but that between the weight and height. The weight should be somewhat near the average for the given height. All the tables are wrong as to the weights of girls because these tables were made when girls wore clothes. It is safe, for this reason, to deduct about two pounds from the weights given for girls.

The next thing to notice is the color. I find that all the laity, as well as many physicians, estimate the color by the color of the skin, and say that a child is anemic if its skin looks pale. Except in extreme cases, you cannot tell anything about the condition of the blood by the color of

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†For record and address of author see "This Week's Issue," page 381.

the skin. The way to estimate color is by looking at the nails and lips. If they are pink, you need not worry about the pale skin. If you wish to please the parents and do not wish to learn anything about the condition of the blood, you can use the Tallqvist test. You must use a better one if you really wish to find out the amount of hemoglobin. Incidentally, a word as to the use of iron. It will sometimes do good, when there is a lack of hemoglobin. I do not think that iron is a tonic and, consequently, do not believe that it should be used as a routine. Now as to liver. I do not know whether you feed liver to all the babies and children in Vermont or not, but they do in Boston. Liver undoubtedly does good in pernicious anemia and it is possible that there is a form of secondary anemia in babies in which it also does good. It is useless in all other forms of anemia.

The shape and size of the head should be noted in relation to rickets and hydrocephalus. You must remember, however, that, like adults, some children have large heads and some children have small heads. Do not make a diagnosis of idiocy or hydrocephalus in a child because it has a head like its parents. The large head in rickets is due to overgrowth at the centers of ossification of the bones of the skull. The head is, therefore, irregularly shaped and roughly square. The large head in hydrocephalus is due to increase in the intra-cranial pressure with consequent forcing of the bones outward. The head is, therefore, symmetrical and round. There are other minor differences, but these are the most important.

Now as to the teeth. I find that a great many physicians make a diagnosis of syphilis because babies and children have poor teeth. Remember that there is nothing characteristic of syphilis about the first teeth. It is only the second teeth which show anything pathognomonic. The only characteristics about them are that they are notched or pegged or chisel shaped. These malformations may also be due to other causes. Poor teeth do not mean syphilis.

It may seem very foolish to say anything about the examination of the throat. My excuse is that I find that many physicians either do not know how to examine the throat properly or, if they do, do not do it. In order to examine the throat properly, the child must be held firmly, facing the light, or a flashlight must be used. The mouth must be well opened and the back of the tongue pushed down so that the child gags. I have seen all sorts of things missed simply because the child was not properly held, the back of the tongue not depressed and the child not made to gag. It is impossible to tell anything about the tonsils unless the child is made to gag. It is very important, in this connection, to remember that large tonsils are not necessarily diseased tonsils, while small tonsils may be. It is normal for a child to have large tonsils especially when it is about six years old.

A word as to adenoids. Everybody is familiar with the characteristic picture of the child with obstructing adenoids. Many physicians, however, do not seem to realize that a child may have adenoids that are causing all sorts of trouble, such as frequent colds and otitis media, without causing obstruction. This, however, is the case. Consequently, do not rule out adenoids because a child does not show the typical facial expression. The best way to examine for adenoids is to have the child sit sideways in its mother's lap, with its back to the physician. If the child is small, the mouth can be held open with the finger in the left hand corner. If it is older, a gag must be used. When the mouth is open, reach round with the right forefinger and go way up behind and feel. Tell the child that it will be uncomfortable, but will not hurt. If he is told this, he will not treasure the examination up against you.

Now as to the ears, you have to be on the lookout all the time in infancy and early childhood for trouble with the ears. A great many times the symptoms which physicians think of as meaning otitis are lacking and there are no symptoms pointing directly to the ears. The only indication that there may be trouble in the ears is that the child is sick and you cannot find anything else to account for it. It is not difficult to examine the ears with the electric otoscope. It must be remembered, however, that the drum normally appears more red with the electric otoscope than it does with the head mirror and reflected light. In babies the external auditory canal runs inward and downward and the drum is almost horizontal. In introducing the speculum the ear must be drawn forward and downward instead of upward and backward. If you are like me, not infrequently you will think you are looking at the drum when you are really looking at the posterior wall of the canal. If you are honest, you will have to admit with me that you have occasionally tried to open the posterior wall. Fortunately, that does not do any harm, but it is not good practice. It must always be remembered that every baby that has otitis media is liable to have mastoiditis. Unfortunately, the symptoms of mastoiditis which most people think of are tenderness, redness and swelling over the mastoid process. If mastoiditis is not recognized until these symptoms appear, it is too late. A good rule to follow is that any child whose temperature keeps up more than ten days, and whose ear discharge continues, has trouble in the mastoid. In such cases watch out carefully for bulging of the posterior wall of the canal. Recognize your mastoids early and operate before any external manifestations appear.

The chest of the baby and young child is more rounded, the lower opening is wider and the sternum is higher than in the older child and adult. The normal shape of the chest of a baby is the same as that of an adult with chronic

emphysema. A very important thing, which is quite generally neglected, is to look at the motion of the chest. Let the light fall directly on it and watch how it moves and whether both sides move alike. Many a case of pneumonia can be recognized before any other physical signs develop by noting that one side does not move as much as the other. Now as to the rosary. The rosary has become very important in Boston and vicinity in recent years. I do not know whether it is as important in Vermont or not. If you look for it, you will find it in about 90% of all babies. In Boston, if the physicians find it, they give the babies cod liver oil. If they do not find it, they give them cod liver oil just the same, either on the chance that they missed it or so that they will not be able to find it later on. As a matter of fact, a rosary does mean rickets, but a little rosary does not mean that the rickets is of any importance. In most cases it does not make any difference whether there is a rosary or not, unless there is something else to go with it. The rosary is, of course, a beading on the ribs, not a rosy flush on the skin, as one of my students once told me.

Almost everybody percusses the chest of babies and children too hard. Do not whack them. Percussion of the baby's and young child's chest must be very light. So light that you have to get your ear down to hear it. If it is light, changes can be recognized which would be disguised otherwise. If the percussion is hard, the sounds come from so wide an area that localized changes cannot be recognized. It is most important when a child's chest is percussed to have the child even, so that the chest is even on the two sides, because the chest wall of the child is so compressible that the percussion note is changed if it is lying on the side. Now as to respiration. Remember the characteristics of the baby's and child's respiration. The sound is different from what it is in the adult. It is more toward the bronchial. The relation between inspiration and expiration is not the same. Physicians often forget the characteristics of the normal puerile respiration and when they hear it, they think that it is bronchial and that the child has solidification of the lungs. If you hear the same sound over the whole chest back and front and on both sides, you can be sure that it is not bronchial, as no child ever lived that had solidification of the whole of both lungs. You can always tell whether the sound you hear is bronchial or not by comparing it with the sound which you hear over the larynx and trachea. That sound is bronchial. The normal puerile respiration is not like it and is not bronchial. It must also be remembered that, in early cases of pneumonia, the bronchial sound may often be audible in only a small area, perhaps not larger than the bell of the stethoscope. This area is quite likely to be high in the axilla.

I find that physicians as a rule do not pay enough attention to the voice sounds, largely because the child will not speak. The voice sounds are, however, just as valuable as the respiration. Not infrequently it is possible to get a bronchial voice sound before you get bronchial respiration. It is almost always possible to get a child to speak. It is just as easy to get the voice sounds from the cry as from the spoken voice. If a baby does not cry, I usually bear down hard with one side of my stethoscope. This makes it cry and the mother does not know why, as she would if the baby was pinched or had its hair pulled.

A word of two as to the sense of resistance which is something which apparently very few people know about. By the sense of resistance I mean this: when you tap with the fingers over the normal lung, you get a feeling of elastic resistance. When you tap over a lung which is solidified, you get a greater sense of resistance. When you tap over a collection of fluid, you get a still greater sense of resistance, like that which you get when you tap over the liver or on the thigh. I find this sense of resistance very valuable in distinguishing between fluid in the pleura and solid lung.

Now, just a word as to the diagnosis between fluid in the pleura and solid lung. In the first place, the intensity of the respiration is of very little assistance, because, when the lung is solid, the bronchus may be plugged and, in consequence, the respiratory sound much diminished; while, on the other hand it is very common in children, when the chest is full of fluid, to have loud, bronchial respiration transmitted through it. It is impossible, therefore, to determine from the intensity of the respiratory sound whether there is fluid in the chest or solid lung. The voice sounds vary in the same way as the respiration and are, therefore, of no more importance. The first and most important thing in distinguishing between fluid in the chest and solidification of the lung is whether there is any displacement of organs, that is, whether the heart is in normal position or not, whether the posterior mediastinum is displaced and whether or not there is dullness in Traube's space. The thing next in importance is the sense of resistance. These two things are what count more than anything else in the differential diagnosis.

I have used up my twenty minutes and, therefore, must stop, although I have not said anything about the heart, the abdominal organs, the extremities or the examination of the nervous system.

BENNINGTON COUNTY MEDICAL SOCIETY NOTES

Doctors Charles S. Buchanan and J. R. Wilson, who have been vacationing at Cape Cod, have returned and resumed practice.

Dr. F. J. Hurley is at Cape Cod.

Dr. Ellis Kellert has been appointed director of laboratories at Putnam Memorial Hospital.

Dr. L. M. Kelley has resumed his practice at Manchester, Vt.

MEDICAL PROGRESS

PROGRESS IN SYPHILIS, 1928

BY AUSTIN W. CHEEVER, M.D.*

THERE seems to have been little really new in the treatment and diagnosis of syphilis during 1928. Reports have come in on bismuth arsphenamine sulphonate, a drug recently introduced for syphilis therapy; bismuth has been practically settled in its place, malarial treatment and tryparsamide are still being discussed. Experiments are under way to test out on human syphilis the hot bath treatment which has been used successfully on the experimental form in rabbits. The Hinton glycerol-cholesterol precipitation test which appeared in 1927 has been accepted, as was anticipated, and has stimulated more or less comparative serologic study. It is being used in numerous hospitals over the country, and has entirely supplanted the Wassermann and Kahn tests in at least three of the large, conservative institutions in Boston.

There has, however, been one epoch-making step taken toward the advancement of the knowledge of syphilis, for while the need of funds for systematic study of this disease has been well known among the medical profession, it has been exceedingly difficult to get money except such as was given by Government appropriations during the war. But in March, 1928, a group of public spirited laymen, acting through Dr. Edward L. Keyes, President of the American Social Hygiene Association, invited a group of syphilologists and investigators interested in the subject to meet in New York City for the purpose of organizing the Committee on Research in Syphilis. This committee will distribute annually the funds placed at its disposal by the group of donors to subsidize and develop research in the clinical and laboratory aspects of syphilis. Great credit should be given to these laymen who have been induced to give their money for this purpose, and to Dr. Keyes for his courage in carrying through these plans.

PREVALENCE

The subject of prevalence of venereal disease in the general population in various parts of the United States and abroad has been much discussed during the year. Current reports on the situation in Denmark, Norway, Sweden, United States, and Soviet Russia are to be found in the monthly epidemiological report of the health section of the secretariat, League of Nations, seventh year, No. 3, Geneva, March 15, 1928. Below appear some of the significant facts from sections of this country.

The United States Public Health Service made surveys in a number of communities, varying in social conditions, color, etc., for the purpose of obtaining better data as to the prevalence of syphilis and gonorrhea. Their method was to secure from physicians and institutions the number of cases under their care or observation on a certain date. Thomas Parran, Jr., Assistant Surgeon General; Willard C. Smith, Investigator, and Selwyn D. Collins, Associate Statistician, United States Public Health Service, have presented a report for 14 communities covering a total population of 619,126 in West Virginia, Kentucky, Illinois, and Arkansas (Venereal Disease Information, 9:45, Feb. 20, 1928). They found a rate of 11.60 per 1,000 total population reported under treatment or observations for venereal diseases, for gonorrhea the rate being 4.96 and for syphilis 6.65 per 1,000. In every one of the communities both gonorrhea and syphilis were more prevalent among males than among females; of the syphilis cases 65 per cent. were reported as of more than a year in duration.

In a social hygiene survey of New Haven made by the American Social Hygiene Association in co-öperation with the New Haven Health Department, the Yale School of Public Health, and the United States Public Health Service, it was brought out that in the opinion of 66 per cent. of the physicians co-öperating, venereal diseases were definitely decreasing, while 15 per cent. considered them increasing, and 19 per cent. believed there had been no change in their trend. (*J. Social Hyg.* 14:213, 1928.)

Pfeiffer and Cummings of the Division of Social Hygiene, New York State Department of Health, (Venereal Disease Information, 9:143, April 20, 1928) made a one-day incidence study of syphilis and gonorrhea in New York State exclusive of New York City. A total of 14,476 cases of syphilis and 10,637 cases of gonorrhea were reported as under treatment or observation on the date of the survey, a prevalence rate of 2.63 cases of syphilis and 1.94 cases of gonorrhea per thousand total population. From data collected during the past eight years from fifty clinics in the State of New York it is estimated that from 17,000 to 20,000 cases of syphilis and 35,000 cases of gonorrhea occur in the area surveyed during the course of the year.

Figures have been compiled for the first admission of general paralysis of the insane to all institutions for mental disease in New York State (*Health News*, Albany, 1928, 5:91). They range from 8.1 per 100,000 population in 1913, through 9.5 in 1918, to 7.5 in 1927.

An apparent exception which goes to prove the fact is that recorded in *Health News* of

*For record and address of author see "This Week's Issue," page 381.

Albany, New York (1928, 5:39): "Syphilis topped the list of communicable diseases in 1927. . . . . The recent increase is believed to be due largely to more complete statistics and not to an increase in new infections."

EXPERIMENTAL

Halty (*Bull. Soc. franc. de dermat. et syph.* 35:447, 1928) injected "Spirocheta Hispanicum" in eight cases of secondary syphilis, thinking that perhaps this infection might show advantages over malaria therapy. His results, however, were so unsatisfactory that he abandoned the investigation.

Fischl, Epstein, and Breinl (*Arch. f. Kinderh.* 83:44, Jan. 1928) performed some experimental studies in attempting to produce congenital syphilis in rabbits. In no instance was syphilis transmitted to the offspring.

Raiziss and Severac (*J. Chemotherapy*, Philadelphia, 5:1, April, 1928) experimented to determine the extent of the curative action of several iodine compounds in well developed primary syphilis in rabbits. They concluded that the oral administration of large doses of iodine compounds induces very rapid clearing up of the visible evidences of the disease, while relatively smaller doses intravenously of the same compounds produce the same or even more rapid results. However, the three iodine compounds (potassium iodid, peptoiodine, calcium iodothiourea) used in these experiments failed to effect a complete cure in any of the rabbits regardless of the route of administration, number and magnitude of doses as proved by lymph node inoculation test.

Chesney, Turner, and Halley (*Bull. Johns Hopkins Hosp.* 42:319, June, 1928) showed that when rabbits with recent scars are inoculated with syphilis the lesions develop most profusely in the scars. The histories of two patients are presented in whom syphilitic lesions developed in previously traumatized areas of the skin. Their conclusions were that "recent non-specific inflammatory reactions of the skin of both rabbits and human beings, resulting from wounds, constitute foci favorable for the lodgement and growth of the treponema pallidum coming from within the body, and predispose to the evolution of syphilitic lesions in those areas".

Gregoriew, and Jarisheva (*Am. J. Syph.* 12:67, January, 1928) described in detail the histologic structure of numerous syphilitic lesions in rabbits. Their conclusions were that while in many aspects the structure of these lesions was identical with those of the human being, there were many different peculiarities between the reaction of human and rabbit tissue toward the Spirocheta pallida.

PROPHYLAXIS

Whitney (*Am. J. Syph.* 12:1, Jan., 1928) emphasized the need of special care on the part of physicians in being on the alert to detect infectious syphilis and thereby to protect themselves from infection. He stated that he had seen twenty-nine cases of syphilis acquired by physicians in the practice of their profession, largely general practitioners and surgeons. All started with typical chancres. He gave in detail the histories of ten of these cases, explaining the probable methods of infection, which varied from the handling of infectious syphilitic infants to obstetrical cases and surgery, especially tonsillectomies.

Pinard, Vernier, and Corbillon (*Bull. Soc. franc. de dermat. et syph.* 34:745, Nov. 1927) described the case of a patient who, while showing no evidence of syphilis, was given injections of bismuth salts empirically for epileptiform attacks. A chancre developed while the patient was undergoing this treatment, a fact which the authors interpreted as a warning against the employment of bismuth as a prophylactic.

SERODIAGNOSIS

Willet and Nagle (*J. A. M. A.* 90:1189, April 14, 1928) found in a series of cases of primary syphilis that the Kahn test gave positive results in 80 per cent., while the dark field was positive in 60.95 per cent. The lesions were of less than twenty-eight days' duration in all but four of these cases. In other words, the dark field failed to detect syphilis in about 40 per cent., while the Kahn failed in 20 per cent. In the first week, however, the dark field was found to be more reliable than the Kahn test, but in the second and subsequent weeks the percentage was reversed. The authors emphasized the advisability of using the Kahn test and a dark field examination in all cases of primary syphilis.

Peterman (*Arch. Path. & Lab. Med.* 5:445, March, 1928) reported on the microprecipitation test for syphilis based on the test of Kline and Young. Only one-half drop of blood serum or spinal fluid is required for this test which has been found to accord with the clinical observations in 96.5 per cent. of the cases, while the Wassermann test has been in accordance with such observations in 87.25 per cent. The greater accuracy of the precipitation test seems to be found in cases of congenital syphilis.

Johnson (*Am. J. Syph.* 12:270, April, 1928) reported that after his investigations of the microscopic slide precipitation test he felt that that test is simpler to perform than the Kahn tube test, requires less material and time, and the results are more easily read. It is, in his opinion, slightly more sensitive than the Kahn or Wassermann tests and is adaptable to spinal fluids.

Hull, Fry, and Garwood (*Am. J. Syph.* 12:104, January, 1928) after a study of 1200 Kahn tests made on spinal fluids concluded that the Kahn test has a high degree of specificity in eliminating the possibility of cerebro-spinal

syphilis as the readings very closely parallel the clinical findings.

Franken and Rottman (*Monatschr. f. Geburtsh. u. Gynak.* 77:163, October, 1927 applied the Wassermann test to the milk as well as the blood serum in 225 puerperal women. The results agreed in 95.5 per cent. In only one case did the reaction in the milk prove more accurate than in the retroplacental blood. They found that the reaction in the milk is most pronounced from the eighth to the tenth day.

Hollander (*Arch. Derm. & Syph.* 17:797, June, 1928) has revived the organic luetin test as an added check on serologic tests especially in the examination of tertiary syphilis.

Cheever and Splaine (NEW ENGLAND JOURNAL OF MEDICINE, 199:967, Nov. 15, 1928) compared the Hinton test with the Wassermann, Kahn, and Slide test of Kline and Young in 1600 cases. They found the Hinton test showed the largest number of positives in the known syphilities and as few false positives in the non-syphilities as any of the other methods. On the basis of their study they concluded that the Hinton is a much more sensitive test for syphilis than the Wassermann, the Kahn, or the Slide test. Because in their study they found a demonstrated increase of 50 per cent. in sensitiveness and a practical absence of false positives, they felt that the Hinton test is a truly superior diagnostic criterion of syphilis, and that a negative Hinton reaction is a safer criterion of cure than a negative Wassermann reaction on the blood.

Jones (*Northwest Med.* 27:526, November, 1928) from a study of the comparative value of Hinton and Wassermann reactions in pregnancy considered that the best precipitation reaction for checking the routine Wassermann on prenatal patients is the Hinton test.

PATHOLOGY

Grigoriew and Jarisheva (*Klinicheskiy J. Saratov. Universiteta*, 5:83, February, 1928) studied the vitality of syphilitic virus in dead tissues of the syphilitic fetus. The spirochetes remained virulent in the refrigerator for forty-eight hours after the birth of the fetus and rabbits inoculated with pieces of the diseased liver, placenta and umbilical cord developed typical chancres in two weeks. Silver preparations of the liver of the fetus showed the presence of a few spirochetes at varying intervals of from seventy-two or ninety-six hours and even six or ten days after the birth, but rabbit inoculations with this material were negative.

Payenneville and Cailliau (*Ann. de dermat. et syph.* 9:469, June, 1928) from their studies of the endocrine glands in children who died with congenital syphilis stated that in such persons as present endocrinous disturbance histologic examination of the endocrine glands shows the characteristic pathologic changes of syphilis, and often the presence of Spirocheta pallida. They felt that these histological changes are probably constant in congenital syphilis and deduced that these lesions are the basis for the clinical dystrophies of the congenital form of the disease.

REINFECTION

Reports of reinfection after treatment with the arsenical drugs have increased in frequency with the increased intensiveness of the use of that metal; so far but few have appeared following the exclusive use of bismuth. Nicolau and Blumental (*Ann. d. mal. ven.* 23:161, Mar. 1928) stated that so far three cases of reinfection had been reported in patients treated exclusively with this drug. They added a fourth with unquestionable secondary syphilis, positive Wassermann and Sachs-Georgi reactions who returned in six years with another chancre and positive Wassermann reaction.

Halley and Wassermann (*Arch. Int. Med.* 41:843, June, 1928) carefully analyzed all cases of reinfection reported since the discovery of the Spirocheta. Of the 676 cases recorded, they considered only 237 as acceptable for their study. Of these, 97.8 per cent. of the patients had received treatment during the primary or secondary stage. This relative infrequency of second infections in patients whose treatment was begun late in the progress of the disease is closely parallel with the conditions pertaining to rabbits under such conditions.

Brunetti (*Gior. ital. dermat. e sifil.* 68:1261) and Halley (*J. A. M. A.* 90:763, March 10, 1928) each reported a case of third infection. Both seem to conform to the usually accepted criteria of reinfection.

SYPHILIS AND PREGNANCY

In a series of 6,954 pregnant women, mostly white, Stillians (*Arch. Derm. & Syph.* 17:318, March, 1928) found 6 per cent. had positive Wassermann reactions; among 814 negresses, 19.2 had positive reactions. He found that false positives occurred in not more than 2.5 per cent. of the positive cases in this series. He considered that the Wassermann reaction had the same diagnostic value in the pregnant as in the non-pregnant, and that the flocculation tests were valuable aids in the diagnosis of syphilis in pregnancy.

Gammeltoft (*Am. J. Obst. & Gynec.* 15:747, June, 1928) reported the percentage of syphilitic mothers as 5.5 from 23,383 deliveries in Copenhagen. He gave figures to show the tremendous value of treatment for the pregnant mother in preventing congenital syphilis.

Dodds (*J. Obst. & Gynec. Brit. Emp.* 34:779, Winter, 1927) called attention to the frequent absence of a history or of clinical manifestations of syphilis in the pregnant woman. He showed that the first and many times the only evidence

is a positive Wassermann reaction. From 2000 consecutive pregnant women a report other than negative was obtained in 15.4 per cent.

TREATMENT

A large volume of articles continues to appear on the use of malarial therapy. O'Leary (*J. A. M. A.* 91: 543, Aug. 25, 1928) from a study of 358 patients with neurosyphilis treated by malaria at the Mayo Clinic, 220 of whom had early manifestations of paresis, deduced that for a selected group of early paretics fever therapy offers the most economical, rapid, and efficient means of producing remissions, but that such treatment requires care in an institution with special facilities; on the other hand, treatment by typhoid vaccine, although less efficient, is a much more convenient substitute. In the nonparetic group O'Leary found the most pronounced clinical results a year after the institution of treatment by malaria, while the serologic changes developed from three to four years after the malaria. Treatment should be started as early as possible, with tryparsamide (or arsphenamine), intraspinal measures, and mercury (or bismuth) which are definitely indicated, he feels, following the fever therapy.

Bunker, and Kirby (*Bull. New York Acad. Med.* 4:307, March, 1928) found from a series of cases treated, some of which were under observation for four and a half years at the New York State Psychiatric Institute at Ward's Island, that 50 per cent. manifested definitely favorable responses even though in one-third some residual evidences of tissue destruction precluded recovery in a clinical sense. In this group observed over an average period of two and one-half years, the death rate due to general paralysis was 12.5 per cent. whereas it would have been expected to be 65 per cent. if the group had not been treated.

Figueroa (*An. de Fac. de med., Lima* 9:167, 1926) reported 76 per cent. of improvement among general paretics treated with this form of therapy. He found a number of old traditions and documents that bear out the idea that malarial therapy was used by the Peruvians before the time of Columbus.

Ebaugh (*J. A. M. A.* 91:1020, Oct. 6, 1928) reported improvement in cases of cerebral syphilis and tabes treated by malaria, but warned that one should be conservative in judging results as it has always been recognized that these conditions respond rather well to old methods of treatment. He felt that this form of treatment is well worthwhile in those patients who do not yield to the older types. The earlier such patients are treated the more likely is the prevention of serious sequelae.

To illustrate that malarial therapy is effective in the cure of general paralysis but ineffective in its prevention, Gougerot (*Paris med.* 67:198, March 3, 1928) reported an interesting case. The patient contracted syphilis in 1916 and very severe malaria in the Orient in 1917. During the second year of malaria the patient manifested the first signs of general paresis which the antisyphilitic treatment caused to disappear. When, five years later, these signs reappeared, they left again under malarial therapy. In consideration of these facts, the author warned against the use of malaria as a prophylaxis against syphilis of the nervous system.

Wullenweber (*Munchen. med. Wchnschr.* 74:2056, Dec. 2, 1927) reported on thirty unselected cases of tabes treated by malaria. There was clinical improvement in 87 per cent. and improvement in the spinal fluid in 82 per cent. Two patients in this series who had aortitis with symptoms of vasomotor collapse died. The gastric crises and lancinating pains may be temporarily exacerbated by the fever to such an extent that treatment can be continued only with opiates. Because of the relatively good prognosis of life for tabetic patients, the authors cautioned against treating any such with malaria unless they are vigorous and without complications.

Schamberg and Rule (*Arch. Derm. & Syph.* 17:322, March, 1928) having made some interesting studies on the therapeutic effect of hot baths in the course of experimental primary syphilis in rabbits, have turned their attention to this method of treatment in the human. They arrived at certain impressions from these experiments, but they felt that the investigations had not yet been sufficiently extended to warrant the drawing of conclusions. They noticed in these human studies that if the quantitative Wassermann reaction by the Kolmer method was compared before and after the hot baths in nearly all instances the test had become somewhat weaker, and in nearly all cases the eruption tended to regression although this was more evident with tertiary lesions than with secondary ones. Their next step is to determine whether the associated use of very hot baths with antisyphilitic remedies will lead to shorter or surer results. It is interesting to note in this connection that Hollingsworth (*Arch. Derm. et Syph.* 18:736, November, 1928) carried on hot bath treatments on a group of patients with late syphilis. He failed to observe any clinical or laboratory evidence that the heat exterminated or vitiated spirochetes in any of the patients studied.

Beinhauer and Jacob (*Am. J. Syph.* 12:61, January, 1928) from a study of fourteen cases of Wassermann-fast syphilis announced that sodium thiosulphate had a definite serologic effect in some cases as 85.6 per cent. of the cases observed were serologically improved after a course of injections of it. The former considered the following indications as safe for the use of this drug (*Am. J. Syph.* 12:55, January, 1928):

1. Acute and chronic arsenic poisoning including dermatitis, encephalitis, nephritis, neuritis, hepatitis, etc.
2. Acute and chronic bismuth and mercury poisoning.
3. Wassermann-fast syphilis, on the theory of heavy metal saturation.
4. Local infiltration due to faulty technic.
5. Heavy metal intoxications in patients treated over a long period of time.
6. Prophylactic measure against heavy metal poisoning.

O'Leary (*Arch. Derm. & Syph.* 18:372, September, 1928) gave the results of his eighteen months' experience with bismuth arsphenamine sulphonate, a new synthetic drug for intramuscular use in the treatment of syphilis. He found that the acute signs of syphilis were slower to disappear than was usual with the other preparations of arsphenamine, and the spirocheticidal effect was likewise slower. It has not yet been determined whether or not it is necessary to give mercury in conjunction with this drug.

Bunker (*Am. J. M. Sc.* 175:265, Feb., 1928) reported on the effect of one hundred injections of tryparsamide upon the spinal fluid in general paralysis. He stated that while the drug is considered the best arsenical in cases of neurosyphilis, best results are not to be obtained with less than sixty injections, preferably seventy-five to one hundred or more should be given. Complete negativity of the spinal fluid may possibly be reached with the larger number of treatments. Menzies (*Canad. M. A. J.* 19:427, October, 1928) found tryparsamide of value as a provocative agent in cases of neurosyphilis where spinal fluid and physical and mental symptoms were sufficiently abnormal to make diagnosis difficult. The fluid became more definitely positive after one injection of tryparsamide and it did not have any effect on the spinal fluid of patients who did not have neurosyphilis.

After examining 99 male patients for the disappearance of surface spirochetes after injections with arsphenamine, Oelze (*Dermat. Wchnschr.* 86:89, Jan. 21, 1928) found that injections of arsphenamine failed to sterilize the lesions after forty-eight hours in the following percentages: 100 per cent. following the injection of 0.15 gm. neoarsphenamine, 55 per cent. following 0.3 gm. and 17 per cent. after the use of 0.45 gm., but only 4 per cent. after the injection of 0.6 gm. Therefore, the author concluded that neoarsphenamine should not be given in small doses, but, if possible, 0.6 gm. even in the first injection.

Knowing that epinephrine will give immediate relief for certain reactions due to arsphenamine, it occurred to Stokes that it might be of value to study ephedrine which has some of the properties of epinephrine. Stokes and McIntyre (*Arch. Derm. & Syph.* 18:131, July, 1928) have published their findings: that ephedrine gave relief in certain reactions due to arsphenamine in 57.5 per cent. of the 67 cases studied; that this drug may be used to combat fall in blood pressure observed in certain patients reacting to arsphenamine; that relief from choking and coughing due to arsphenamine was afforded by ephedrine owing to its relaxing effect on bronchial musculature.

In order to prevent the accidental giving of the acid solution of arsphenamine, Chambers (*J. A. M. A.* 91:320, Aug. 4, 1928) recommended that two drops of a 1 per cent. alcoholic solution of phenolphthalein be added as the drug is made to dissolve. Since after alkalization the color changes to a pink, any possible confusion with the acid arsphenamine on the one hand or with neoarsphenamine or sulpharsphenamine on the other is prevented.

In experimental syphilis of rabbits, Klauder (*Arch. Derm. & Syph.* 17:332, March, 1928) found that soluble bismuth compounds are more toxic when injected intravenously than intramuscularly. He advised against the use in the human of intravenous injections of bismuth alone, but felt that possibly advantage could be safely taken of the greater spirocheticidal action of bismuth by combining intravenous with intramuscular injections in courses, which would be of especial advantage in treating those intolerant to arsenic.

The executive board of the Deutsche Dermatologische Gesellschaft condemns the tendency which appears to be current in parts of Europe to substitute bismuth in place of arsphenamine. Of 130 members of the society in prominent positions in Europe, 120 endorsed the report which was published in the *Deutsche Wochenschrift* (Berlin letter, *J. A. M. A.*, 91:658, Sept. 1, 1928) to the effect that there is no statistical proof of the increase of paresis or of aortitis since the use of arsphenamine, as has been claimed; that it is the duty of all physicians to treat all cases of early syphilis as energetically as possible with the most effective remedies, arsphenamine, bismuth, and mercury.

Saunders and Spiegel (*J. A. M. A.* 91:630, Sept. 1, 1928) concluded from a careful study of 43 patients with late syphilis in various manifestations on whom cisternal and lumbar punctures were done that slight difference in cell count, globulin and colloidal gold readings occur, while there is practically no difference in the Wassermann reactions. They feel that all four of these tests must be used for a proper interpretation. Considering the distinct advantages to the patient of the cisternal route, and the slight differences that sometimes exist in the two fluids, they are led to prefer this method to lumbar puncture. In a discussion of this paper O'Leary highly commended this study but did not agree that cistern puncture should be done

as a routine procedure in place of lumbar puncture.

Cole, Gammel, Rauscholb, Schreiber, and Sollman (*Arch. Derm. & Syph.* 17:625, May, 1928) studied the clinical excretion of mercury on three groups of patients after intramuscular injections of mercuric bromide, after simple and after "clean" inunctions. They found the variations between different patients treated by the same method much wider than the difference between the medians of the different methods. In all, the rate of excretion increased with the duration of the administration but at somewhat different rates. With the simple inunctions it averaged about one-fourth greater and with clean inunctions about one-fourth less than with the injections. The ratio of mercury in the urine and that in the feces varied widely, the urinary excretion being relatively higher after intramuscular injections, the fecal after inunctions, due possibly to the conveyance of some of the ointment from the hands of the patient to the mouth. With simple inunctions the excretion was about one-fifth greater and with clean inunction about one-fifth less than with injections. The excretion continued high for a considerable time after the discontinuance of the administration.

More reports are coming in concerning stovarsol. Vlaicu (Bucharest Letter, *J. A. M. A.* 91:1476, Nov. 10, 1928) from his experience with the internal treatment of syphilis with this drug has arrived at the conclusion that it is useful in patients who for one reason or another cannot be given arsphenamine injections; also that it is useful as a prophylaxis and in congenital syphilis of infants, gumma of the gastrointestinal tract, and where the usual arsenical preparations are contraindicated. It is useful in some nonsyphilitic conditions as ulceromembranous stomatitis, Vincent's angina, and gangrenous balantis. Levaditi and Fournier (*Lancet*, April 7, 1928) have used bismuth-stovarsol treatment with some success.

Efron and Lipskerov (*Ann. de dermat. et syph.* 9:43, January, 1928) from their clinical results in the use of stovarsol on rabbits concluded that it possesses an energetic therapeutic action, approaching neoarsphenamine in efficacy. They did not encounter ill effects from its use, and attribute the poor results obtained by some investigators to insufficient doses. Reporting on the use of stovarsol in the treatment of early syphilis, Bruck (*Dermat. Wchnschr.* 85:1287, Sept. 10, 1927) while he did not recommend its substitution for arsphenamine, thought that in cases where the administration of the latter is inadvisable or impossible, it is a useful drug.

Bender (*Am. J. M. Sc.* 174:819, Dec., 1927) reported in detail six cases of poisoning due to stovarsol. Fever, skin eruptions, and adenitis are characteristic toxic manifestations, but these disappear promptly when the drug is discontinued.

IN GENERAL

Fuhr and Riehl (The Practical Medicine Series, *Dermatology & Syphilis*, Series 1928, p. 169, ab) described an interesting case of a cutaneous idiosynerasy toward neoarsphenamine in a father, his son and daughter. Not only did intravenous injection of neoarsphenamine produce a typical arsphenamine erythema, but local application of the drug by means of a cloth saturated with neoarsphenamine solution for twenty-four hours caused a skin reaction. Upon injecting the content of one of these blisters (caused by the local application of the drug) into the skin of a person who readily tolerated neoarsphenamine an idiosynerasy was produced. The person thus treated showed a general and local reaction to intravenous injection and also a local reaction after local application of the drug.

Labadie (*J. A. M. A.* 91:1447, Nov. 10, 1928) reviewed in detail all the cases of phagedenic destruction of the male genitals. He found this condition a complication of chancre and chancroid and considered untimely surgical interference such as circumcision or dorsal slit as the most important causative factor present, with secondary factors of saprophytic organisms or virulent streptococci next in importance. These cases are extremely refractory to all forms of therapy. Hospitalization varied from one to ten months with an average time of five months.

Kolle and Schlossberger (*Deutsche. med. Wchnschr.* 54:129, Jan. 27, 1928) found that the spirochetes of syphilis may persist in mice asymptomatically for long periods.

When a typical chancre appeared on the upper lip of a girl who five weeks before had borrowed a lip-stick of a friend, Buschke and Joseph (*Medizinische Welt*, 2:1417, Sept. 22, 1928) put some chancre serum on a lip-stick and found motile spirochetes after two hours, which led them to believe that this is a possible means of transmitting the disease.

Feldman (*Arch. Derm. & Syph.* 18:380, Sept., 1928) reported an instance of a patient's developing syphilis from a transfusion of blood, the donor having had a negative Wassermann test nineteen days before the transfusion, but with a secondary syphilis when the disease was recognized in the recipient. Another interesting case was that of a physician who was the donor in a transfusion, during which a stoppage of the blood in the needles necessitated cleaning them; apparently the needles were reversed when reinserted. By the time the roseola had developed on the physician the patient had died and it was impossible to tell in what stage of the disease she had been, but her husband admitted having had syphilis six years previously and his Wassermann was found positive. There had been three miscarriages in the family, the third being fatal. The author cautioned that investi-

gation of transfusion donors should be made by a competent syphilologist at frequent intervals, and an obligatory blood serum test should be taken before the transfusion.

Gammel (*Arch. Derm. & Syph.* 18:210, August, 1928) reported two more cases in addition to those he has previously described of arterial embolism resulting from the intramuscular administration of the salts of heavy metals. Symptoms of this condition were violent pain in the leg, tenderness and swelling in the gluteus muscle and discoloration of the skin near the site of the injection, occasionally going on to superficial necrosis.

Stookey and Roberts (*Am. J. Syph.* 12:212, Apr., 1928) are convinced that the primary lesion of syphilis is commonly on the cervix uteri, and that the clinical diagnostic characteristics are such that a possible primary should be considered whenever a physician is confronted by any lesion on the cervix.

The relative clinical immunity of the female with syphilis as compared to the male has long been apparent. Warthin (*Venereal Disease Information*, 9:268, July 20, 1928) analyzed the situation from the point of view of the syphilologist. He found the greatest immunity in the heart, aorta, central nervous system, and ovary, while the lesions of latent syphilis in women are more extensive in the liver, pancreas, adrenals, and rectum than in men, and that severe clinical forms of these visceral lesions are relatively infrequent as compared with the severe forms of central nervous system and cardiovascular syphilis in men. Woman's relatively greater immunity is striking during the child-bearing period as she may have absolutely no clinical symptoms and the serology is likely to be negative, yet she may bring forth a syphilitic child and the placenta, umbilical cord, and fetal tissues of her progeny may show spirochetes in tremendous numbers. The syphilitic child may be the only possible diagnostic point in the case. Signs are more apt to occur toward the menopause than before. He discussed the many theories that have been offered to explain this difference in immunity in the two sexes.

Cummer (*Am. J. Syph.* 12:1, January, 1928) reported three new cases of lymphadenitis of tertiary syphilis and carefully reviewed the entire literature on the subject. It is worth remembering, he feels, that late syphilis of the lymphatic glands is not common, yet does occur and its recognition may obviate an unnecessary operation.

Moore (*Arch. Derm. & Syph.* 18:99, July, 1928) found asymptomatic neurosyphilis of common occurrence in both early and late syphilis. The incidence of abnormal spinal fluids in seronegative primary syphilis is 9.2 per cent.; in seropositive primary 23.4 per cent. and in early secondary forms 20.2 per cent. In late syphilis of all types, excluding clinical neurosyphilis, the incidence of asymptomatic neurosyphilis is 13.5 per cent. He found that the changes in the spinal fluid are equally frequent in men and women with early syphilis, but less common in negroes than in white people, a racial protection also apparent in late syphilis. In patients with early syphilis treated intermittently asymptomatic neurosyphilis is three times as frequent as when treatment is carried out continuously; in late syphilis such differences are not apparent. A persistently positive Wassermann reaction of the blood in early syphilis, when treatment has been given, is strong presumptive evidence of the existence of asymptomatic neurosyphilis, but this does not hold true in the late stage of the disease. The optimum time for routine spinal puncture in a patient with early syphilis who has been coöperative is after six months of treatment; if the patient has allowed frequent lapses in treatment, the optimum time is from the 18th to 24th month of the infection. Routine examination of the spinal fluid is an indispensable feature of the management of early or late syphilis.

Under the title of "The tragedy of neglected dark field examination in the diagnosis of syphilis", Halpern (*Med. J. & Rec.* 127:533, May 16, 1928) presented nothing new, but a study of any group of cases will quickly prove that this warning cannot be repeated too often or too forcibly, for it is true that "Time is an extremely important factor in the treatment of syphilis. The sooner treatment is begun, the greater are the chances for cure."

Case Records
of the
Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 15341

JAUNDICE AND LUMBAR PAIN

MEDICAL DEPARTMENT

A Belgian laborer fifty years old entered February 12 complaining of pain in the abdomen associated with jaundice.

A month before admission when he was doing some extra shoveling he developed a pain in the lower lumbar region radiating around to the lower abdomen. He and his physician both thought he had strained his back. A week later he noticed clay colored stools. He continued to work until ten days before admission. That day he had a sudden sharp pain in the lumbar region, forcing him to stop work. Since that time he had had some pain which frequently kept him awake. It was less severe when he lay on his right side. It was not related to meals. Since the onset of the pain he had had jaundice, less marked in the past three days. He had never had such an attack before.

He had always been strong and healthy and had had no serious illnesses.

Clinical examination showed a poorly developed and nourished man lying comfortably in bed. The skin, mucous membranes and sclerae were deeply jaundiced. The heart action was slow and forceful. The artery walls were palpable and tortuous. No abnormalities of the heart or lungs are recorded. In the abdomen was a large globular mass, not tender, moving with the diaphragm and extending from the right upper quadrant to a point two centimeters below the umbilicus. The mass showed definitely through the abdominal wall and distorted the shape of the abdomen. The liver edge was felt one to two centimeters below the costal margin on the right. Rectal examination showed a few external hemorrhoidal tabs.

Urine dark, amount not recorded, specific gravity 1.020 to 1.022, a slight trace of albumin at one of two examinations, bile test very strongly positive at both, 3 to 5 leukocytes and rare red blood cells at both. Blood: hemoglobin 75 per cent, leukocytes 6,900, reds 4,060,000, red cells, leukocytes and platelets normal. Icteric index 80. Bleeding time two minutes and thirty seconds.

Before operation chart normal except for a rise in temperature to 99.5° February 14.

X-ray examination (not a Graham test) showed no visible gall stones.

February 15 operation was done. The patient was in satisfactory condition until early the following morning, when he suddenly went into profound shock, with marked cyanosis and coldness of the extremities. Gastric lavage yielded 16 ounces. 500 cubic centimeters of glucose was given intravenously with temporary relief. There were no signs of hemorrhage or peritonitis. The temperature rose to 100°, then fell to 96.6°. The pulse rose to 120. That afternoon the patient died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

I do not know any cause of jaundice that gives pain in the back. Gall stones are the commonest cause of pain associated with jaundice, but I never heard of that causing pain in the back with the absence of pain in front. My guess is that this will be a fortuitous association, the feeling sick and the pain in the back not being connected with jaundice.

DIFFERENTIAL DIAGNOSIS

We have to speculate as to why they operated. I think it is the sort of case where they operate even when they are not at all clear about the cause. They do an exploratory operation although they cannot be sure of anything in particular. This case does not sound like gall stones. It is not "catarrhal jaundice" (infectious). At his age malignant disease of some kind is more likely to be the cause of jaundice. I shall come back to the question as to what kind of malignant disease is here present. The other causes of jaundice, such as cirrhosis, syphilis, acute yellow atrophy, it seems to me can be ruled out. None of them makes any such tumor as we have here. Obviously the so-called hematogenous forms of jaundice can be ruled out. This is certainly an obstructive form of jaundice with an intense icterus and an abdominal tumor. I am still in the dark about the pain in the back. But with a tumor of this size I suppose all sorts of pain can be produced through metastasis.

I believe this is a malignant tumor. The question is, where? We are told that it is in the right upper quadrant, but that it goes down below the umbilicus. Apparently it is not the liver, although it may be connected with the liver, but it is not the liver itself because they speak of the edge of the liver at another point. Let us think of the organs with which it could be connected. I do not see how it could be connected with the intestine, in the colon. I do not see how it could be connected with the liver itself or arise out of the liver itself. I never heard of a tumor of that size or that shape that

was itself in the liver. Could it all be a distended gall bladder? I should say yes. I do not believe you could state any limit to the size the gall bladder may take when it is thoroughly blocked. The tumor is in the right position, and the shape is described as one would describe the shape of a large gall bladder. I do not think I could rule it out. A cyst of the pancreas ought to be considered. Apparently this is more to the right than most pancreatic cysts are. It is more obviously superficial to sight and touch than most pancreatic cysts. There are cysts connected with the liver itself, but they do not cause jaundice so far as I know.

My guess is that this mass is the gall bladder and that something else is being involved in a cancer, that something in all probability the head of the pancreas, with the next possibility the bile ducts. I do not know what other possibility to state. I feel pretty confident that this is malignant disease. I do not feel nearly so confident that the reasons by which I connected it with the pancreas are sound. It seems rather dubious, but I do not know any better reasons for other diagnoses.

A STUDENT: If it is carcinoma of the gall bladder would the gall bladder be enlarged?

DR. CABOT: Yes. Courvoisier's law is that if you have obstruction of the common duct by gall stones the gall bladder is small; if you have obstruction of the common duct by malignant disease the gall bladder is large.

A STUDENT: How many exceptions do you see to that law?

DR. CABOT: I went through the hospital records not long ago and found about 87 per cent right and 13 per cent wrong. That is a good rule as rules go.

A STUDENT: Were the thirteen per cent adults?

DR. CABOT: I do not remember just what they were. The general rule worked right in a large number of cases.

A STUDENT: What about the possibility of echinococcus cyst?

DR. CABOT: I think it is not possible for this reason. Neither Belgium nor the United States, the two places where this person has lived, is the seat of echinococcus disease. Then a single cyst of this size—and there is nothing to suggest that it is not single—is very rarely found in echinococcus disease. Echinococcus cysts generally do not cause jaundice, and if they do it is a very mild jaundice. I was going to say they do not kill, but it was the operation that killed. An echinococcus patient generally does not suffer except from the mechanical pressure of the cysts. I think you can rule it out.

PRE-OPERATIVE DIAGNOSIS

Carcinoma of the pancreas.

OPERATION

Under gas-ether anesthesia a right rectus muscle splitting incision was made over the prominent tumor at the right of the umbilicus. The tumor was found to be the gall bladder, which contained clear fluid. The nodule palpable to the left of the gall bladder proved to be retroperitoneal malignancy in the neighborhood of the head of the pancreas and also behind the cystic and common ducts. The liver did not appear to be involved. General exploration was not made. A tube was sutured into the gall bladder with two purse string sutures. A cholecystgastrostomy was not done because the cystic duct appeared plugged. This plugging resulted in the hydrops.

FURTHER DISCUSSION

I do not know what these post-operative complications are. It is not necessary that there should be any. When a man has been weakened both by malignant disease and by cholemia it does not take much to make him die. It is not necessary therefore that anything like peritonitis or hemorrhage should be present. But in general, hemorrhage is the thing we see most because of the tendency there is towards hemorrhage in liver disease with obstruction. My guess is that it was hemorrhage.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Carcinoma of the pancreas.

DR. RICHARD C. CABOT'S DIAGNOSIS

Carcinoma of the pancreas or the bile ducts.
Postoperative hemorrhage?

ANATOMIC DIAGNOSIS

1. *Primary disease.*

Carcinoma of head of pancreas with metastasis to retroperitoneal nodes.

2. *Secondary or terminal lesions.*

Icterus.
Laparotomy wound.

DR. TRACY B. MALLORY: The man had a large tumor lying immediately adjacent to the head of the pancreas. This tumor was multilobular and seemed rather to be a conglomerate mass of lymph nodes than a tumor of the pancreas. It could be separated from the latter quite definitely in all but one spot, and there the connection was very slight. I wondered at the time of autopsy if it might not be a lymphoma of the retroperitoneal glands; but microscopic examination has subsequently shown that it is carcinoma. I think in all probability it developed from an island of pancreatic tissue separated from the main body of the pancreas. That is not an extremely uncommon finding. This mass of tumor passed underneath the common bile duct and the structures of the gastrohepatic ligament, but did not involve them directly, and all the ducts were patent. The obstruction must have been due to pressure from outside. We

have no explanation for the suddenness of his death subsequent to operation. There was no peritonitis, no hemorrhage. There was no evidence of cirrhosis or disease of the heart or kidneys.

A STUDENT: What did you make of the spine?

DR. MALLORY: That was not examined.

A STUDENT: Were there gall stones?

DR. MALLORY: No.

A STUDENT: What was that pain in the abdomen?

DR. MALLORY: I do not know. I remember one other case of carcinoma of the pancreas,—it was the tail of the pancreas, not the head in that instance,—in which pain in the back was the first and for a long time the presenting symptom. It certainly is very unusual, however.

DR. CABOT: Were there no metastases?

DR. MALLORY: None except for the retroperitoneal lymph nodes.

DR. CABOT: Might that have caused the pain in the back?

DR. MALLORY: I do not know, but I doubt it.

DR. CABOT: My impression is like Dr. Mallory's that this pain had nothing to do with the cause of death. I think it is worth while remembering that upon investigation of the sudden causes of death the commonest "cause" as found at autopsy is no cause at all, as in this case.

CASE 15342

THREE MONTHS' FEVER

MEDICAL DEPARTMENT

A Greek-American schoolgirl fourteen years old was brought to the Emergency Ward September 12. The history was given by her father and an uncle.

When she was seven years old she was ill in bed for a year with dyspnea, orthopnea, precordial bulging with each heart beat and possibly fever. At the same time she had mild arthritis—merely slight pain in both ankle joints. She had had many similar attacks, but none so severe or long as the first. They were almost always accompanied by slight pains in the ankles. She usually had one in the summer and was generally free in the winter. For a few years she had had a very little edema of the ankles after being up all day. The present attack had continued for three months and was very similar to the first. With it she slept poorly. Her temperature had been about 102° for three months. She had often felt chilly, but never had a real chill. For a week she had had a cough with one or two ounces of whitish sputum a day. Since the onset of her illness she had been subject to very severe bilateral nosebleeds, sometimes lasting as long as an hour, and often lost a great deal of blood. Her appetite was very poor. Her bowels were constipated.

At birth she weighed only four and a half pounds. Otherwise she was entirely normal until her present illness. At six years her tonsils were removed merely because they were big. Her usual weight before the present attack was about 100 pounds. Since the onset she had lived on milk, broths, etc., and thought she had lost about forty pounds.

Clinical examination showed a very poorly developed and nourished, pale girl with marked dyspnea and orthopnea. The precordium bulged with each heart beat. Nasal septum deviated to the left. Left side obstructed with exudate. Teeth somewhat decayed. Slight pyorrhea. Apex impulse of the heart seen and felt in the sixth space. Left border of dullness in the anterior axillary line, 12 centimeters from midsternum, 5.5 centimeters outside the midclavicular line, right border 4, supracardiac dullness 6 centimeters. Sounds loud. Rhythm only very slightly irregular; an occasional extrasystole. Rate too rapid (96) to hear murmurs well. A loud systolic and diastolic heard at the apex, however. Pulses and arteries normal. Blood pressure 130/30. Palpable râles throughout both lungs, more marked on the left. Loud inspiratory and expiratory râles throughout, simulating a friction rub at the left base. Abdomen a little tense and a little tender in the right upper quadrant. Questionable slight clubbing of the fingers. Otherwise extremities, pupils and reflexes normal.

The urine is not recorded. Blood: 35,000 leukocytes, polymórphonuclears 76 per cent, 1 blast, 1 phagocyting mononuclear, hemoglobin 70 per cent, reds 4,600,000, normal in the smear. Hinton test negative.

Temperature 100.7° to 102.7°, rectal. Pulse 109 to 91. Respirations 37 to 41.

The patient entered in the morning. At four o'clock in the afternoon she was propped up in bed, markedly dyspneic and slightly cyanotic. The heart sounds were loud and snapping. Besides the apical murmurs there was a diastolic along the left border of the sternum in the second, third and fourth interspaces. Systolic and diastolic thrills were now felt at the apex. There were harsh crackling inspiratory wheezes, best heard at the left base. The patient showed no marked change until evening. Then her respirations became gasping and she died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE HISTORY

The arthritic attacks make us think we have a case of rheumatic heart disease.

"A temperature of 102° for three months"—that is quite a statement.

I do not think removing tonsils because they

are big is much of a reason. Probably she had heart disease, too. That is a better reason.

NOTES ON THE PHYSICAL EXAMINATION

Her appearance suggests anemia.

The heart measurements show that she has a big heart for a small girl.

You cannot have a blood pressure of 130/30 and have a normal pulse.

Mononuclears eating other cells are more common in bacterial endocarditis than in any other known condition. We have had some smears where they were in every field eating everything in sight, eating red cells, white cells, anything there was to be had. I have seen under the microscope a fresh specimen in which you would have thought you were in the jungle seeing beasts eating each other. They found only one in this case.

They did not find much anemia. I am not certain that there is any anemia, but there ought to be.

DIFFERENTIAL DIAGNOSIS

She ought to have died of bacterial endocarditis superimposed upon some old valvular lesion of the so-called rheumatic type, probably of the aortic valve; if of the aortic valve in a long-standing case, probably also the mitral valve, though there is not much to show for it. What about thrills? Thrills at the apex are very common in bacterial endocarditis. We ought to say mitral stenosis with bacterial endocarditis presumably.

A PHYSICIAN: She did not have much anemia.

DR. CABOT: She ought to have had it. I am troubled about that. She was pale. We are not on very solid ground, nevertheless I cannot see much else to say. We cannot tell about terminal pericarditis. Nobody took a blood culture. Nobody took an X-ray. Nobody noticed anything in particular on percussion. There was not time to take an X-ray I suppose.

I think that is as far as I can go. No doubt her heart will be found enlarged, with old lesions on both the aortic and mitral valves. I believe fresh endocarditis will be found on one or both of those valves. Pericarditis is quite possible, but we have no evidence. She ought to have passive congestion of all the organs. It is quite possible that there were some infarcts, quite possible that she died of infarct, but we do not know where. It may have been infarct of the coronary arteries with sudden death from that.

A PHYSICIAN: What of pericardial effusion, with the bulging precordium and so on?

DR. CABOT: We ought to have a characteristic area on percussion or a characteristic X-ray before we can make that diagnosis.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Rheumatic heart disease with active endocarditis.
Cardiac hypertrophy.
Aortic regurgitation.
Mitral stenosis and regurgitation.
Bronchopneumonia.

DR. RICHARD C. CABOT'S DIAGNOSIS

Rheumatic heart disease, aortic and mitral stenosis, fresh endocarditis of one or both of those valves.
Possibly pericarditis.
Chronic passive congestion, general.
Possibly infarcts.

ANATOMIC DIAGNOSIS

1. *Primary disease.*

Acute and chronic rheumatic endocarditis; mitral regurgitation, aortic stenosis and regurgitation.
Rheumatic myocarditis.

2. *Secondary or terminal lesion.*

Pneumonia (interstitial origin ?).

DR. TRACY B. MALLORY: This patient had rheumatic heart disease. She had an enormous heart, weighing 915 grams, though that weight includes a considerable amount of pericardium, the pericardium being two centimeters in thickness. It was very much the same type of pericarditis as in the case we discussed last time with involvement of all the serous cavities. In this case however nothing but the pericardium was involved. There was an old lesion of the mitral valve, marked distortion, with shortening of the chordae tendineae but no stenosis. Five fingers could be passed through the mitral valve. In spite of the extreme degree of mitral regurgitation there was no stenosis.

DR. CABOT: It was real mitral regurgitation.

DR. MALLORY: There was a very slight degree of both stenosis and insufficiency of the aortic valve and on the valve fresh vegetations of rheumatic rather than bacterial type. We found no emboli to lend support to any suspicion of bacterial endocarditis.

There was a slight degree of terminal pneumonia.

DR. CABOT: You ought to have found some Aschoff bodies in a case like this.

DR. MALLORY: We cannot predict whether we are ever going to find them or not. They are difficult to find in that we have to make a great many sections and look a long time in certain cases which are unquestionably cases of acute rheumatic heart disease, while in other cases we find them in every section.

DR. CABOT: We are very grateful to these minute vegetations for letting us out.

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PSYCHOANALYSIS AND ITS PLACE IN MEDICINE

THERE has recently taken place a rather vigorous discussion in regard to psychoanalysis before the British Medical Association, at its annual meeting in Manchester. Dissension arose over the report of a committee, formed two years ago, to investigate psychoanalysis and its relations to medicine. Their conclusions were as follows:

1. Freud's use and definition of the term, psychoanalysis, is one to be accepted.
2. Psychoanalysis should not be held responsible for the opinions or actions of those not, in the proper sense, psychoanalysts.
3. Other misconceptions, in relation to the subject, are to be recognized and removed.
4. There is a disposition, even among those hostile to psychoanalysis, to accept the existence of the unconscious mind as a reasonable hypothesis.
5. The committee cannot pronounce between psychoanalysts and the most important criticisms of their theory and method.
6. The committee expressed failure to express a collective opinion either for or against it.

The report was evidently too negative to satisfy many of the physicians attending the Association convention. Some spoke vigorously against psychoanalysis, according to the newspaper reports, feeling that there was an over-emphasis on sex and that the method of treatment was being practiced by untrained people. The latter statement is certainly true; psychoanalysts are unable to control a large number of people that use psychoanalysis or an abortive form of it as a basis for their own profit. Many charlatans practice a semi-Freudian type of psychoanalysis.

On the other hand, it does not seem fair to condemn the whole procedure on account of the actions of a few unlicensed practitioners. It is the opinion of most thoughtful psychiatrists and neurologists that the psychoanalytical movement has added enormously to our knowledge of the unconscious mind and especially the part that sub-conscious states may play in disease. We should credit Freud with, at least, the development of a sound system of investigation of the sub-conscious mind and the elaboration of certain fundamental concepts of psycho-pathology, such as "the complex", "repression", "sublimation", "transference", etc. These concepts have given us a new working basis for analyzing mental disease and as time goes on, one feels, more and more, their importance. Although much of psychoanalysis, in the strict Freudian sense, may be washed away with the sands of time, there is a large solid foundation of important ideas behind the whole psychoanalytical movement which no physician of today ought to ignore. It is disappointing, therefore, that a committee of the British Medical Association should have failed to express a collective opinion for psychoanalysis.

CANCER AS A PUBLIC HEALTH PROBLEM

SINCE, with our present knowledge of cancer, control of the disease depends very largely on education of its victims to seek skilled help early, the various health departments are in the best strategic position to aid in controlling cancer. A large part of the duties of health departments is education relating to the early recognition of the disease and dissemination of information with respect to the appropriate treatment. They naturally are able to do this without the shadow of a suspicion of self-interest. The progress made by the Massachusetts Department of Public Health with its educational program, its statewide diagnostic clinics made possible by the coöperation of the local members of the medical profession, and its splendid hospital for cancer at Pondville, is a striking illustration of what can be done.

Saltzstein[1] found that in twenty American cities the majority of patients with cancer who come to the hospitals are in an advanced stage of

the disease, and at least one-third are in the hopeless stage. When we balance this against the knowledge that early cancer is in the majority of cases curable, and that many forms of cancer, such as those of the mouth and of the cervix uteri, are to a large extent preventable, it is obvious that education is one of the most important means of handling this disease which is fast becoming the most common cause of death throughout the world.

REFERENCE

1 Saltzstein, H. C.: J. A. M. A., 91:465, 1928.

DISCOVERY OF A DIPLOMA MILL ORGANIZATION

It is reported that spurious diplomas of Rush Medical College, Northwestern University Medical School and the University of Wisconsin have been made by a diploma mill process.

It is expected that arrests of the guilty parties will follow the work of investigators.

It is reported that applicants without any qualifications have been able to purchase spurious diplomas and state certificates. More than 1000 fraudulent state licenses are believed to have been sold, the price being about $2000 each, the high price for a Class A Medical School Diploma, and a State license being $8500.

This attempt at fraud demonstrates the gullibility of the would-be doctor who cannot secure legal credentials, for as soon as one attempts to practice under a bogus certificate he is quite sure of arrest. The registration laws in the several states are almost iron clad and if an unregistered person should attempt to practice he would be in the hands of the police, if existing laws were enforced. It is simply a matter of checking up the doctors with the records of State Boards.

The fake doctor is an easy mark for gold brick vendors.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

LUND, CHARLES C. A.B., M.D. Harvard 1920. F.A.C.S. Instructor in Surgery, Harvard Medical School; Junior Visiting Surgeon, Boston City Hospital; Surgeon to Out-Patients, Collis P. Huntington Memorial Hospital. Address: 527 Beacon St., Boston. Associated with him is:

BENEDICT, EDWARD B. M.D. Harvard 1923. Workman Fellow in Surgery, Harvard Medical School 1927-1928; Assistant in Surgery, Massachusetts General Hospital; Graduate Assistant in Surgery, Palmer Memorial Hospital. Address: 264 Beacon St., Boston. Their subject is: "The Influence of the Thyroid Gland on the Action of Morphine." Page 345.

LANE, C. GUY. A.B., M.D. Harvard 1908. Dermatologist, Massachusetts General Hospital; Staff, New England Deaconess Hospital; Instructor in Dermatology, Harvard Medical School. His subject is: "The General Practitioner and His Work." Page 353. Address: 416 Marlborough St., Boston.

MACKNIGHT, RICHARD P. M.D. Jefferson Medical College of Philadelphia, 1914. State District Health Officer, Massachusetts Department of Public Health. Address: First National Bank Building, New Bedford, Mass. Associated with him is:

SCAMMAN, CLARENCE L. A.B., M.D. Bowdoin 1909-12; C.P.H. Harvard-Technology School of Public Health 1922. Associate in Public Health Administration, Harvard School of Public Health; Director, Division of Communicable Diseases, Massachusetts Department of Public Health. Address: Room 546, State House, Boston. Their subject is: "An Outbreak of Mild Smallpox in a Massachusetts Community." Page 361.

CRABTREE, E. GRANVILLE. Ph.B., M.D. Harvard 1914. F.A.C.S. Urologist, Beth Israel Hospital, Boston Lying-In Hospital and Newton Hospital; Consulting Urologist to the Henry Heywood Hospital, Gardner; Milford Hospital, Norwood Hospital, and Sturdy Memorial Hospital, Attleboro; Instructor in Urology, Harvard Postgraduate School. His subject is: "The Physician Speaks for Himself Concerning Venereal Diseases." Page 362. Address: 99 Commonwealth Ave., Boston.

MORSE, JOHN LOVETT. A.M., M.D. Harvard 1891. Professor of Pediatrics Emeritus, Harvard Medical School; Consulting Physician at Children's Hospital, Infants' Hospital, and Beth Israel Hospital; Member, New England Pediatric Society, American Pediatric Society, Association of American Physicians and Boston Obstetrical Society. His article is entitled: "Some of the Pitfalls in the Physical Examination of Infants and Children." Page 366. Address: 483 Beacon St., Boston.

CHEEVER, AUSTIN W. A.B., M.D. Harvard 1914. Chief Department of Dermatology and Syphilology Boston Dispensary. Visiting Dermatologist Beth Israel Hospital; Consulting Dermatologist at Cambridge Hospital, Brockton Hospital, and Goddard Hospital at Brockton. He writes on: "Progress in Syphilis, 1928." Page 369. Address: 472 Commonwealth Ave., Boston.

MISCELLANY

DEFECTIVE SPEECH IN CHILDREN

According to the U. S. Public Health Service, speech disorders in children have until recently been the most neglected of all hampering defects observed among them. It is estimated that in the United States at least 1,000,000 persons have some form of speech

disorder; and of these, approximately 500,000 are school children who stammer or stutter. Uncorrected speech defects observed in childhood become a serious economic and social handicap in later life, because of their bearing on educational achievement and the ability to secure preferential and gainful employment.

Fortunately, the majority of speech defects are functional in character, not dependent on definite organic lesions, and can, therefore, be corrected. Most speech defects develop between the third and eighth year of life.

The more common forms of speech defect observed in children are: (1) Retarded speech; (2) Imperfect speech associated with partial deafness; (3) Imperfect speech caused by certain malformations of the organs of speech; and (4) The nervous speech disorders, such as stammering, stuttering, and nervous hesitation.

The normal child learns to talk largely through imitation; and when this instinct is lacking, speech development is retarded and there exists a form of speech defect called by specialists "Dumbness without deafness", which requires attention and training. Other causes of retarded speech development are inattention and, occasionally, strange as it may seem, lack of conversation in the home.

The popular belief that children who do not learn to talk at the normal age are mentally defective is responsible for much unwarranted anxiety. While it is true that disordered speech may be an early symptom of mental defect, speech development may be delayed as late as nine years of age in children otherwise perfectly normal.

Partial deafness may also be the cause of speech defect. Most deaf-mutes have perfectly normal speech organs, but do not exercise them because of their inability to hear spoken words. Since imitation is such a pronounced factor in the development of speech in children, careful tests should be made of all speech defectives for the discovery of partial deafness which may easily account for the imperfect speech. Such children should always be referred to an ear specialist for treatment; and if treatment is ineffective, lip reading should be taught.

Imperfect speech may also be caused by malformation of the speech-producing organs, such as harelip, very short upper lip, narrow palate, cleft palate, nasal obstruction, tongue-tie, and very irregular teeth. Careful search should be made for the presence of malformations in order that prompt corrective treatment and speech education may be carried out. It is the opinion of a number of specialists that in cleft palate better speech is obtained in those who have not been operated upon than in those who have, when supplied with proper corrective dental contrivance, because the muscles in such cases are free to adjust themselves, eventually resulting in more nearly normal speech.

The most usual form of speech disorder is "stammering" or "stuttering". From the standpoint of development there are two distinct types, one which commences with the development of speech and the other that begins after the child has learned to speak normally. The first form is the most difficult to correct.

The underlying cause of stammering is purely mental. It is essentially due to emotional disturbance, and implies lessened ability to meet a difficult situation. It is most frequently observed in the so-called nervous, highly strung children. As these children grow older they subconsciously fear that their speech organs will refuse to work and have the horror of being the object of ridicule. A sense of inferiority develops, establishing a vicious circle—the greater the dread, the more imperfect their speech.

According to some observers, stammering is more or less common among lefthanded children when they are taught to become righthanded writers. It is also believed to be more common among boys than girls.

Parents should not be deluded by any expectation that the "child will outgrow the defect". Only the very mild cases developed through imitation may be said to be outgrown when the increasing mental development of the child enables him to recognize and correct his mistake. On the other hand, the nervous speech disorders, when well developed, are more difficult to correct, because they are curable only by special forms of re-education. Of late years, because of the growing demand for the treatment of nervous speech defects such as stammering and stuttering, a number of speech clinics have been established through the country, particularly by boards of education in the larger cities, for the correction of speech defects. The wise parents will take advantage of these clinics or will otherwise give attention to the speech disorders of their children in order to remove the handicap in life which these disorders impose.—*United States Public Health Service.*

DOGS AND CATS HAVE MANY PARASITES

Dr. E. W. Price of the United States Department of Agriculture reports that dogs and cats act as hosts to over four hundred different parasites, some of which affect human beings, as, for example, fleas which act as carriers of bubonic plague and infantile Kala-azar, lung fluke, which is very serious in man, and tape worm.

Many of the parasitic diseases of dogs and cats are not controlled by treatment.

TULARAEMIA A POSSIBLE INFECTION IN GAME BIRDS

The question whether tularaemia occurs as a natural infection of game birds has been the subject of recent scientific investigation and has been widely discussed in various publications relating to wild animal life.

The possibility that tularaemia infection might be the causative factor in epidemics that affect native species of game birds in various sections of the United States has been suggested. If tularaemia were so concerned, the matter appears to be one of some importance because of the resultant danger of human infection and as a possible factor in game bird abundance.

The results of the studies conducted so far by the United States Public Health Service have not been completed. However, it has been shown that quail are susceptible to the infection of tularaemia and that they may suffer from the disease.

Two human cases of tularaemia have been reported (one in North Carolina, the other in Tennessee) which indicate that the source of infection may have been quail. Although these studies are

not yet completed, it is of importance that quail as a possibility of a source of infection for tularaemia, be borne in mind. — *United States Public Health Service.*

RÉSUMÉ OF COMMUNICABLE DISEASES FOR MASSACHUSETTS IN JULY, 1929

GENERAL PREVALENCE

The total number of cases of communicable diseases in July was not unusual.

The reported incidence of chickenpox was high, and a new high record was reached in the reported incidence of whooping cough.

The reported cases of diphtheria, German measles, influenza, lobar pneumonia, mumps, scarlet fever and typhoid fever was within endemic limits.

New low records were reached in the reported incidence of gonorrhea, syphilis and anterior poliomyelitis.

The reported incidence of pulmonary tuberculosis reached the low level for the month reported in 1925.

The reported incidence for non-pulmonary tuberculosis was low.

RARE DISEASES

Anterior Poliomyelitis was reported from Boston, 1; Braintree, 1; Dalton, 1; Milton, 1; total, 4.

Dysentery was reported from Worcester, 6; total, 6.

Encephalitis lethargica was reported from Marlboro, 1; Waltham, 1; total, 2.

Epidemic cerebrospinal meningitis was reported from Boston, 2; Chelsea, 1; Gloucester, 1; Holyoke, 2; Lawrence, 3; Lynn, 1; Plymouth, 1; South Hadley, 1; Springfield, 1; Worcester, 2; total, 15.

Malaria was reported from Braintree, 1; Taunton, 1; Winthrop, 1; total, 3.

Rabies was reported from Mendon, 1; total, 1.

Septic sore throat was reported from Amesbury, 3; Arlington, 1; Belmont, 1; Boston, 8; Brookline, 1; Charlton, 2; Needham, 1; Somerville, 1; Webster, 2; total, 20.

Smallpox was reported from Chicopee, 1; total, 1.

Tetanus was reported from Taunton, 1; total, 1.

Trachoma was reported from Boston, 1; total, 1.

MONTHLY REPORT OF CERTAIN COMMUNICABLE DISEASES.

	Cases in Entire Population				Case Rates per 100,000 Pop.		
	July 1929	July 1928	Prosodemic Index	Epidemic Index	July 1929	July 1928	Expected Rate***
ALL CAUSES	4403	4471	-	-	100.5	103.4	-
Ant. Poliomyelitis	4	21	29*	.1**	.1	.5	.7
Diphtheria	240	163	171*	1.4**	5.5	3.8	3.9
Measles	897	1351	1632*	.5**	20.5	31.2	37.3
Pneumonia, Lobar	119	142	92*	1.2**	2.7	3.3	2.1
Scarlet Fever	303	317	391*	.8**	6.9	7.3	8.9
Tuberculosis, Pul.	415	451	457*	.9**	9.5	10.4	10.4
Typhoid Fever	32	27	41*	.8**	.7	.6	.9
Whooping Cough	649	405	803*	.8**	14.8	9.4	18.3
Chicken Pox	412	290	-	-	9.4	6.7	-
German Measles	30	25	-	-	.7	.6	-
Gonorrhea	271	373	-	-	6.2	8.6	-
Influenza	10	75	-	-	.2	1.7	-
Mumps	227	156	-	-	5.2	3.6	-
Syphilis	83	103	-	-	1.9	2.4	-
Tuberculosis, O.F.	52	50	-	-	1.2	1.2	-

* This Index is an attempt to estimate the number of cases based on the trend during the past years which can be expected to occur, and is for the purpose of comparison with the number of cases which actually did occur.

** This ratio expresses how prevalent the disease is compared with the index mentioned above; 1.0 indicates that the actual number of cases equals the expected number. A larger number means a greater prevalence, and a smaller number a lesser prevalence than expected. Thus, 2.0 would indicate twice the expected number of cases, and .5 half the expected number of cases. The method used to determine the indices is described in the August 18, 1927 issue of the Boston Medical and Surgical Journal.

*** Calculated from the Prosodemic Index.

MEETING OF AMERICAN HEART ASSOCIATION AT PORTLAND, OREGON

The Fifth Annual Scientific Session of the American Heart Association was held on July 9, 1929, in the auditorium of the Portland Women's Club, Portland, Oregon. Dr. William H. Robey, President, presided.

The association was fortunate in having Dr. James B. Herrick of Chicago present at the meeting. Dr. Herrick, who was formerly president of the association, addressed the meeting on "Coronary Occlusion," and stressed the fact that the field was still open for research and experimentation, and clinical observation on obstruction of the coronary arteries.

Dr. T. Homer Coffen of Portland, Oregon, pre-

sented a paper on "The incidence of heart disease in the Pacific Northwest," the study being based on the hospital admissions of cardiac cases. Doctor Coffen emphasized the fact that rheumatic fever and rheumatic heart disease were comparatively rare in Oregon, but that associated heart conditions with hyperthyroidism were more or less common.

"Clinical observations on syphilitic occlusion of the coronaries" was the subject of the paper read by Dr. J. H. Cannon of Charleston, S. C.

The paper on the subject "An electrocardiographic study of fifty cases of cardiovascular syphilis," illustrated with lantern slides, was the paper presented by Dr. Irving R. Juster and Dr. Harold E. B. Pardee of New York City.

Dr. Eugene S. Kilgore of San Francisco read a paper entitled, "The problem of the nervous heart."

The meeting was attended by approximately one hundred physicians interested in heart disease both from the research and diagnostic standpoint.

A GIFT TO THE SALEM ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS

A gift of $100.00 was received recently from an anonymous giver to the Salem Association for the Prevention of Tuberculosis. This gift will be used to repair the damages at the Health Camp caused by a recent storm.

The Directors and Officers of the Camp are deeply appreciative to their unknown friend who is helping to make it possible for the camp to be continued during the remainder of the season. Miss Marguerite Collins, R.N., Camp Director and the thirty-five youngsters under her supervision at the Health Camp at Salem Willows cordially invite their unknown friend and any other person to see their camp and join them in their crusade for health and happiness.

ENDORSEMENT OF THE HOUSEHOLD NURSING ASSOCIATION WITH STATEMENT OF ITS WORK

Governor Frank G. Allen has endorsed the work of the Household Nursing Association, 222 Newbury Street, Boston, Mass., and praised the service of the organization. The Governor in his endorsement of the Association stated: "I am glad to endorse the Household Nursing Association, whose splendid work is of such a high order that it should commend itself to every one as a service which merits hearty and enthusiastic support. With kind regards and my best wishes for the continued success of your organization." (Signed) Frank G. Allen.

The object of the Training School for Attendant Nurses, which is one of the important units of the Household Nursing Association, is to train women to give nursing care to people who are not seriously ill. The course requires one year to complete, the first six weeks being spent at the school on Newbury Street, where the pupils learn how to cook for the invalid and family and to practice work in the house supervised by a teacher; the remaining 10½ months are spent in one of the affiliated hospitals, where the student learns to do bedside nursing under the direct supervision of experienced teachers. New classes are organized every six weeks, and the next class starts on September 3.

The officers of the Household Nursing Association include: Mrs. William W. Vaughan, Honorary President; Mrs. C. Alexander Newhall, President; Mrs. Moses Williams, First Vice-President; Mrs. Carl Dreyfus, Second Vice-President; Miss Natalie S. Whitwell, Clerk; and Mr. H. Bradlee Fenno, Treasurer.

AN ENDOWMENT FOR THE BEVERLY HOSPITAL

How an addition calls for greater supporting resources is illustrated in the conditions existing in the Beverly Hospital.

In common with almost all community hospitals the demands for service in this institution have run far ahead of the expectations of its promoters and since, as generally recognized the practice of medicine is growing in the variety of its resources with a corresponding addition in its costs, the income from patients and investments must be augmented.

The Beverly Hospital has stood as an illustration of the well-equipped community hospital which has met the needs of the people and the physicians.

It has been supported generously in other drives and now the friends of the hospital plan for an appeal which will obviate the necessity of further campaigns for funds. The slogan is "A Drive to Abolish Drives" as far as Beverly is concerned which it is hoped will reach half a million dollars to be added to the present endowment.

The expectation of raising this large sum is based on the favorable North Shore conditions, for many people of vision and abundant resources make that region their vacation ground.

The campaign has been inaugurated and is being conducted by a local committee thereby saving that portion of the income which is so often devoted to professional money raisers.

Beverly is to be congratulated because of the ambitions of those interested in the hospital.

WEEKLY HEALTH INDEX

Telegraphic returns from 62 cities with a total population of twenty-nine million for the week ending Aug. 3 indicate a mortality rate of 11.1 as against a rate of 10.7 for the corresponding week of last year. The highest rate (19.5) appears for Albany, N. Y., and Nashville, Tenn., and the lowest (6.7) for Canton, Ohio, and Schenectady, N. Y. The highest infant mortality rate (175) appears for Knoxville, Tenn., and the lowest for Des Moines, Iowa, which reported no infant mortality.

The annual rate for 62 cities is 13.9 for the thirty-one weeks of 1929, as against a rate of 13.5 for the corresponding weeks of 1928.

Telegraphic returns from 65 cities with a total population of thirty million for the week ending August 10 indicate a mortality rate of 10.1 as against a rate of 11.7 for the corresponding week of last year. The highest rate (18.6) appears for New Orleans, La., and the lowest (4.5) for Canton, Ohio. The highest infant mortality rate (194) appears for Nashville, Tenn., and the lowest for Grand Rapids, Mich., and Tacoma, Washington, which reported no infant mortality.

The annual rate for 65 cities is 13.7 for the thirty-two weeks of 1929, as against a rate of 13.4 for the corresponding weeks of 1928.

COMPARISON OF DISEASE INCIDENCE IN CONNECTICUT
WITH 1928 AND SEVEN YEAR AVERAGE MONTH
ENDING AUGUST 3

DISEASES	1929					1928			
	Wk. ending July 13	Wk. ending July 20	Wk. ending July 27	Wk. ending Aug. 3	Average cases reported for week corresponding to August 3 for past seven years	Wk. ending July 14	Wk. ending July 21	Wk. ending July 28	Wk. ending Aug. 4
Anthrax	-	-	-	1	-	-	-	-	-
Cerebrospinal Men.	1	2	2	-	2	1	-	1	1
Chickenpox	25	14	5	43	9	19	8	5	10
Diphtheria	17	10	13	12	20	17	13	9	16
Dysentery Amoebic	-	-	-	-	-	-	1	-	-
Encephalitis Epid.	-	-	-	1	-	2	-	-	-
German Measles	6	8	3	1	1	7	2	1	-
Influenza	1	1	4	1	2	1	1	3	4
Malaria	-	-	1	-	-	-	-	1	-
Measles	36	22	18	36	43	192	148	109	67
Mumps	17	9	7	7	6	31	27	12	10
Paratyphoid Fever	-	-	-	-	-	-	1	-	-
Pneumonia (Broncho)*	7	8	10	7	9	6	18	15	16
Pneumonia (Lobar)	7	6	19	14	7	10	14	7	6
Poliomyelitis	-	-	2	-	4	-	3	1	3
Scarlet Fever	19	9	11	11	16	24	14	5	10
Septic Sore Throat	13	1	-	2	2	9	3	1	5
Tetanus	-	1	1	-	-	1	-	1	-
Tuberculosis (PUL.)	31	28	21	30	30	33	38	28	39
Tuberculosis (O.F.)	3	2	1	-	3	1	8	3	7
Typhoid Fever	2	1	1	10	6	1	2	1	-
Undulant Fever**	-	1	-	-	-	-	-	1	-
Whooping Cough	12	23	62	36	53	87	56	73	87
Gonorrhoea	36	33	22	40	24	29	25	60	31
Syphilis	34	31	34	44	29	29	25	50	46

* Made reportable January 1, 1925
** Made reportable July 1, 1928

REMARKS: No cases of Asiatic cholera, Glanders, plague, rabies in humans and Yellow fever during the past seven years.

THE SANITATION OF BATHING BEACHES AND SWIMMING POOLS

The season of outdoor bathing and swimming prompts the United States Public Health Service to call attention to certain dangers to health to which the bather or swimmer may expose himself. The physical benefit derived from wholesome exercise and recreation may be more than offset by illness contracted through exposure to infection unless the individual is sufficiently discriminating in the choice of his bathing place. In choosing a bathing place many people assume that protection is provided through the supervision of some proper official or authority on sanitation. In many instances such supervision is either lacking entirely, or so inadequate that little real protection is afforded. The bather should familiarize himself with the general sanitary requirements for bathing places of various types and should satisfy himself that these requirements have been fulfilled before he decides on the selection of any particular body of water.

For the purpose of discussion from a sanitary standpoint, bathing places may be divided into three general classes, namely, (1) Natural outdoor ponds, rivers, tidal waters, etc.; (2) Outdoor pools partly natural and partly artificial in character; and (3)

pools, either outdoor or indoor, which are entirely of artificial construction.

The chief danger to health to which bathers may be exposed is pollution of the water with excreta from the bodies of other persons. Such pollution may come from domestic sewage deposited in harbors or streams, or, in swimming pools, either natural or artificial, it may result from direct contamination of the water with the body discharges from the bathers themselves. The existence of pollution in the water of bathing places, while usually unavoidable to a certain extent and not of itself invariably dangerous, is of serious concern, because of potential danger—the ever present possibility that discharges from the human body may contain the germs of infectious diseases.

Two important precautions always should be observed in the choice of a bathing place—to ascertain, first, that the water, before use, is safe, and, second, that proper steps are taken, especially in ponds and pools, to insure that direct contamination by bathers is offset by dilution through constant addition of large amounts of fresh water or by appropriate replacement and disinfection.

Before use, the water should be approximately the same bacteriological purity as drinking water, whether the bathing place be a stream, pond, or a pool. Under certain circumstances, as in a stream or pond, the water may have more turbidity or cloudiness than is allowable for drinking water without being at all dangerous.

Open waters in large streams, lakes, and bays are usually safe if there is no discharge of sewage nearby or above the bathing beach. There is an erroneous popular idea that the water in a stream will purify itself under all conditions in traveling over a certain distance. It is true that natural purification does take place in streams, but the distance which pollution will travel in a creek or river depends upon many things such as the amount of contamination compared to the volume of water in the stream and the rate of flow. Pollution will often travel farther in a rapidly flowing broken stream than in a slow flowing placid one. The best plan, when there is doubt as to the safeness of a water supply, is to seek the advice of the health authorities and depend upon bacteriological examination and a sanitary survey rather than upon haphazard opinion.

Especially dangerous is the practice of bathing off docks, wharves, and sea walls in the harbors of large cities. The waters about such places are usually grossly polluted with human excreta from sewers or boats. Such waters are likely at any time to contain the germs of typhoid fever and dysentery.

To reduce the amount of contamination from bathers using indoor pools, regulations should require that individuals using the pool cleanse themselves as thoroughly as possible with soap and water before entering the bathing place. As a further precaution, every bather should be given a physical inspection, and no person who has any contagious disease or infected sore or wound should be permitted to use the pool. It is believed that infections of the ear and eye occurring among bathers frequently are acquired in swimming pools; yet it is possible that if these infections are attributable to the use of bathing places, some of them may result from the effect of water pressure or the lessening of bodily resistance by exposure to cold and physical exhaustion, or from the spread of infection already present in the individual himself. Transfer of infection from one bather to another may also take place. Infection of the feet with ringworm is believed especially likely to spread among bathers, presumably as the result of depositing the causative organism on the floors of bathhouses. The danger of acquiring this annoying affection should be minimized by keeping bathhouse floors as clean and dry as possible. The use of light canvas slippers in dressing rooms would probably result in marked decrease in the frequency of ringworm of the feet. Carpets or rugs should not be used in bathhouses as they are likely to remain damp and harbor infection easily. Foot tubs such as are frequently provided at hotels and bath houses are likely to spread infection and should not be allowed.

To minimize the danger of contamination of swimming pools and small ponds by bathers certain standards for replacement and disinfection of water have been fixed by sanitary authorities. Assuming that the water is pure when it enters the pool, the amount of fresh water required for each bather, without regard to disinfection requirements, is 50 gallons. In other words where the pool is filled and emptied at intervals, it may be used, after each filling, by one bather for each 50 gallons of water in the pool. If the water is replaced by continuous flow or recirculation, there must be a replacement of 50 gallons for each bather.

Unless the amount of water replacement is so great that immediate contamination is offset by dilution, disinfection is required in addition to replacement. This is usually done by the use of chlorine, supplied from a tank in liquid form by a suitable apparatus or obtained by making a solution from chlorinated lime or "bleach". The disinfection may be intermittent or continuous. By intermittent disinfection is meant complete disinfection of the water at intervals after use by a certain number of bathers. Continuous disinfection is the constant addition of the disinfectant in an amount sufficient to take care of the contamination load at all times. Some authorities believe that the continuous method gives better protection. The effect of replacement and

disinfection on the sanitary quality of water in swimming pools always should be checked carefully by frequent bacteriological examinations, and tests for residual chlorine.

For information relative to the safeness of any particular pool or bathing beach you should consult your local health department. The Public Health Service will be pleased to give advice upon request on any matters pertaining to the sanitation of swimming pools and bathing beaches in general.

MOST DRUG VICTIMS USE OPIUM OR ITS DERIVATIVES

According to studies conducted by the New York Narcotic Survey Committee of 1563 patients of a private hospital 88.35 per cent. used opium or its derivatives; cocaine was used by .7 per cent.

The causes which led to use of drugs are as follows: Pain 21+ per cent.; sickness, 19+ per cent.; mental strain, 17+ per cent.; bad associations, 21+ per cent. and miscellaneous reasons, 17+ per cent.

As to occupations, there were 56+ per cent. in gainful work and those in professional life amounted to 34 per cent.

Less than two per cent. were under 21 years of age.

The survey was organized through the efforts of Captain Richmond Pearson Hobson.

NO RABIES THUS FAR IN NEW YORK CITY

Although there have been seven thousand dog-bites reported in New York City this year and eighty-seven of the dogs have been found to have had rabies, there have been no cases of human rabies.

Dr. Wynne believes that this encouraging state of affairs is due to the persistent attention to this problem by the Health Department and the Society for the Prevention of Cruelty to Animals. The isolation and observation of all suspected dogs have been especially important.

The consensus of opinion is that the great danger lies in the unrestricted dogs.

THE CONVALESCENT HOME OF THE CHILDREN'S HOSPITAL, WELLESLEY HILLS, MASS.

The third class of the course for Nursery Maids at the Convalescent Home of the Children's Hospital at Wellesley Hills, will open on September 1. This course for Nursery Maids is just what the name implies, a course for training girls and fitting them to accept nursery maids' positions in private homes. Any girl who has completed two years in a high school and is over eighteen years is eligible. The course is one year long and the girls receive instruction in cooking for children, sewing, and elementary hygiene. Miss Lillian Guillod is Superintendent and principal instructor.

The course includes nine months at the Convalescent Home and three months at the North Shore Babies' Hospital, Salem. While in training, room, board and plain laundry is provided by the Hospital and an allowance is given for incidental expenses. The pupils buy their own uniforms and text books at the school on the day of entrance.

There is a continual demand for properly trained girls to care for well babies and graduates can begin at once to earn good salaries. The enrollment of the class is limited to twenty and all applications should be made now to Miss Guillod, Superintendent.

NATIONAL RESEARCH COUNCIL, SCIENCE ADVISORY COMMITTEE TO THE CENTURY OF PROGRESS

The achievements made in the medical and allied professions during the past one hundred years through the aid of pure and applied science may be graphically shown at the Chicago World's Fair Centennial Celebration to be held in 1933. Leading authorities in these professions have been invited to serve on the National Research Council Science Advisory Committee to the Fair. They have been asked to advise ways and means as how to interpret in a concrete tangible form the advances made in their respective fields since applied science entered their fields up to the present day.

The medical men serving on the general committee include such well known men as: Prof. R. R. Bensley of the department of anatomy, of the University of Chicago, on anatomy; Dean Arthur D. Black of the dental school of Northwestern University, dentistry; Dr. Frank Billings of Chicago, medicine; Prof. Preston M. Hickey of the Medical School of the University of Michigan, on roentgenology; Prof. Stanhope Bayne-Jones of the School of Medicine and Dentistry of Rochester University, bacteriology; Prof. Fay-Cooper Cole of the department of anthropology of the University of Chicago, anthropology; and Prof. Harvey A. Carr of the department of psychology of the University of Chicago, psychology.

The National Research Council Science Advisory Committee was formed at the request of the trustees of the Chicago Exposition. As the most far reaching scientific body in the United States, the trustees asked the National Research Council to prepare a philosophy for a world's fair which would be of an entirely different character than any exposition ever held before. This philosophy is to deal with the progress made by pure and applied science in industry since the beginning of the so-called Industrial Revolution up the present time. It is planned to make science one of the dominant notes of the Exposition.

Leading engineers and scientists from all sections of the United States are members of this general advisory committee and they will strive to formulate a philosophy for the Exposition that may be suggested as a basic plan for the Fair. The members of the general committee will submit to the executive committee ideas which it is hoped to co-ördinate into a central working plan by early fall.

As now planned the Chicago World's Fair Centennial Celebration, which will be known as "The Century of Progress" will probably offer the most unusual opportunity in the history of science for a physical demonstration of the progress of pure and applied science in the development of industry.

The Science Advisory Committee is headed by an executive committee the members of which are: Dr. Frank B. Jewett, New York, chairman; Dr. George K. Burgess, Washington, D. C.; Dr. Vernon Kellogg, Washington, D. C.; Gano Dunn, New York; Prof. M. I. Pupin, New York; and Dr. William Allen Pusey, of Chicago.

Maurice Holland, of New York, has been appointed executive secretary of the committee which has established offices at 40 West 40th Street, New York City.

DR. CRILE TO ADDRESS POLICE AND FIRE SURGEONS

Dr. John J. White, the Secretary of the National Association of Police and Fire Surgeons and Medical Directors of the United States, has announced that Dr. George W. Crile, director of the Cleveland Clinic, in Cleveland, Ohio, has accepted the invitation of the National Association of Police and Fire Surgeons and Medical Directors of Civil Service Commissions of the United States to address the 1929 convention of the association at the Detroit-Leland Hotel, Detroit, Mich., on September 26.

Dr. Crile as yet has not indicated what his subject will be, but police and fire surgeons are of the opinion that it will in all probability be on the subject of asphyxia or something akin to it, with which fire and police doctors are confronted almost every day.

This is said to be Dr. Crile's first public appearance since the Cleveland Clinic disaster on May 15 last when he again attracted international attention by his heroism in that appalling situation. Dr. Crile is a veteran of two wars—the Spanish American and the World War. His acceptance of the invitation of the association to address the 1929 convention was hailed with delight by police and fire surgeons, who regard it as a special achievement and a distinctive professional honor.

HEART DISEASE THE CAPTAIN OF THE MEN OF DEATH

Heart disease was the leading cause of death in this country in 1928. The rate was 228 out of 100,000. The rate seems to be increasing as shown by statistics which record an increase of population of about a third in the 8-year period 1917-1925 in the registration area but deaths from heart disease doubled.

Kidney diseases accounted for 106 per 100,000 and cancer 105, pneumonia 100.

Heart disease is contracted more often in childhood and it is believed that in 75 per cent. of the cases the disease results from infections early in life. This means that the greatest health problem before us lies in the application of knowledge of the causes of the diseases affecting this organ; although little can be done to prevent the congenital forms, those cases resulting from rheumatism, focal infections and undue burdens may often be prevented.

Although mortalities from kidney diseases, cancer and pneumonia are close followers of those due to heart disease more can be done to prevent heart disease than is possible with the other three.

THE PREVENTION AND TREATMENT OF INFANTILE PARALYSIS

Dr. J. P. Leake of the Public Health Service in a discussion of infantile paralysis places especial emphasis on two important features of the program dealing with this disease: One for the use and evaluation of convalescent serum and the other for after care and muscle training.

This program should be in operation permanently for if it is not organized until the time of recognition of the disease valuable time will have been lost and about half the damage will have resulted before employment of the indicated treatment.

Recognition of an impending outbreak is important. It has been found that about one case per 100,000 people may be expected in the period between December 1 and June 1 of each year and in the succeeding six months from 4 to 14 cases; the maximum number is apt to appear in mid September.

The present belief is that quarantine need not be rigid or prolonged, for the usual time of three weeks from the onset of the disease seems to be adeqaute. Although the incubation period varies it is more likely to be two weeks than less than one week. There is a rather general belief that the disease is spread by apparently healthy carriers and by human contact rather than by inanimate vehicles.

Summer insects are not regarded as agents in causing the disease.

Much of the treatment should be carried on by the family physician aided by experts and trained nurses but hospitalization is not beneficial or feasible in most cases.

The most important factors are early diagnosis and reporting to health authorities with request for the assignment of a competent expert who will aid the attending doctor. Better report doubtful cases than wait for a positive diagnosis.

After the early stages of the disease have passed it is sometimes difficult to keep the patient and friends interested in the necessarily long continued treatment, but there should be no let-up until all possible improvement has been effected.

CORRESPONDENCE

SCARLET FEVER ANTITOXIN NOW AVAILABLE

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston
August 15, 1929.

NEW ENGLAND JOURNAL OF MEDICINE,
Gentlemen:

I am glad to be able to announce that negotiations

with the Scarlet Fever Committee of Chicago have proceeded to the point where they now inform us that we may again distribute to the physicians of the State, scarlet fever antitoxin. This material can now be obtained as formerly.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

THE RESIGNATION OF DR. FORSBECK AND THE APPOINTMENT OF DR. ANDERSON

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston
August 15, 1929.

Editor, JOURNAL:

Dr. Filip C. Forsbeck has resigned as Epidemiologist with the State Department of Public Health to take up work in the Department of Public Health Administration at the Harvard School of Public Health. His departure will be regretted since he has done very interesting work on the typhoid carrier, milk borne disease and diphtheria prevention during his three years with us. He is succeeded by Dr. Gaylord W. Anderson, who has just completed his hospital appointment at the Albany Hospital. Dr. Anderson has for some years been very much interested in public health and promises to be a distinct addition to our staff.

Yours truly,

GEORGE H. BIGELOW, M.D.,
Commissioner of Public Health.

OPENING OF HOSPITALS TO PHYSICIANS WHO WISH TO TREAT THEIR PATIENTS

August 6, 1929.

Mr. Editor:

I was much interested in the letter of Dr. Frankman, relative to opening the hospitals to all physicians in good standing, and I find a lot of discussion among physicians covering the same ground.

I hope I am not committing lese majeste in saying that it would be a most excellent thing both for the physicians and their unfortunate patients that have to pass out of their control and services, when circumstances will permit no other alternative than the public hospital.

I do not think that anyone will deny that a patient will do better, when attended by his family physician, and I am sure all of us common doctors would be delighted to follow up our cases in the public hospitals whether recompensed or not.

There has been persistent propaganda, to the effect, that patients in the public hospitals get superior care and the propaganda has become more acute since the last meeting of the Council, as for instance the article in the *Boston Post* a few days ago—"A $50 doctor for 50 cents at the Children's Hospital."

Evidently these propagandists believe that they can get away with "murder" under present circumstances, and I rather think anything from the right source will pass.

I will say that many mistakes could have been avoided in our public hospitals had the family doctor a hand in the treatment of patients, and I think that is a most charitable statement.

Now is there the least chance at present for the opening of the hospitals to the physicians of the community, and may I ask is it fair to shut out 9/10 of the physicians of the community from practising in the public and semi-public hospitals?

I will answer my first question, by saying, NO, and relating what happened to the Committee on Clinics and Health Associations of which I was a member.

The committee endeavored to have the well-to-do misled patients eliminated from the public clinics, and thereby help the real worthy poor and indirectly help the physicians of the community. The committee presented a list of patients who were receiving treatment at one of the hospitals in Boston, all of the patients being well able to hire a private physician. The committee asked that unethical practices of a certain hospital and a dispensary, cease.

The recommendation of the committee was nearly unanimous 12 to 1.

At the meeting of the Council it was clearly shown that the patients enumerated by the committee were all on the way to the poor house—most of them in automobiles—including the Town of Brookline.

The committee's recommendations were overwhelmingly defeated and the committee discharged.

I will say to Dr. Frankman that the present status quo is extremely satisfactory to some of the profession, and that he has a "man's job" if he attempts to change it.

CHARLES MALONE, M.D.
46 St. John Street, Jamaica Plain, Mass.

REVISION OF THE OFFICIAL STANDARD FOR DRUGS AND MEDICINES

United States Pharmacopoeial Convention
Decennial Period, 1920-1930

August 6, 1929.

NEW ENGLAND JOURNAL OF MEDICINE,
126 Massachusetts Ave.,
Boston, Mass.

Gentlemen:

On May 13, 1930, the United States Pharmacopoeial Convention will meet in Washington, D. C. to organize the work of revision of this official standard for drugs and medicines. The Convention meets but once in each decade and the societies and organizations entitled to representation in the Convention are named in its constitution and by-laws. In order to admit new members to the Convention it is necessary to amend the constitution and by-laws. The method of making such amendments is that they must first be voted on by the Board of Trustees, then published in the medical and pharmaceutical journals and voted on finally by the Convention itself.

I enclose a copy of the amendments to the constitution and by-laws of the United States Pharmacopoeial Convention, which have been favorably voted on by the Board of Trustees and will come before the Convention next May for final vote. The parts underscored are the proposed additions and the parts enclosed in parenthesis are the proposed deletions.

It will be very helpful to the Convention if your

JOURNAL will give publicity to these proposed amendments and the Board of Trustees will be very grateful to you for such assistance.

Very truly yours,

WM. B. DAY,
Secretary, Board of Trustees.

PROPOSED AMENDMENTS TO THE CONSTITUTION AND BY-LAWS OF THE UNITED STATES PHARMACOPOEIAL CONVENTION

The following amendments to the Convention and By-Laws of the United States Pharmacopoeial Convention are recommended by the Board of Trustees for adoption by the Convention at Washington, May 13, 1930. Words to be deleted are enclosed in parentheses and words to be added are printed in italics:

CONSTITUTION

ARTICLE II

Membership

Section 1. The members of the United States Pharmacopoeial Convention, in addition to the Incorporators and their associates, shall be delegates elected by the following organizations in the manner they shall respectively provide: Incorporated Medical Colleges, and Medical Schools connected with Incorporated Colleges and Universities; Incorporated Colleges of Pharmacy, and Pharmaceutical Schools connected with Incorporated Universities; *Departments of Incorporated Universities, which Departments are devoted to scientific research in chemistry or in other lines related to chemistry or pharmacy;* Incorporated State Medical Associations; Incorporated State Pharmaceutical Associations; the American Medical Association; the American Pharmaceutical Association, the American Chemical Society, the National Association of Retail Druggists, (and) the National Association of Boards of Pharmacy, *and the Federation of State Medical Boards of the United States;* provided that no such organization shall be entitled to representation unless it shall have been incorporated within and shall have been in continuous operation in the United States for at least five years before the time fixed for the decennial meeting of this corporation.

Medical and Pharmaceutical Associations and Colleges of Medicine and pharmacy in Hawaii, Porto Rico, the Philippine Islands and in the Republic of Cuba (where the Pharmacopoeia of the United States has been adopted as the official pharmacopoeia) shall likewise be entitled to representation by delegates on the same basis as the other Associations and Colleges mentioned in this Section.

Section 2. Delegates appointed by the Surgeon-General of the United States Army, the Surgeon-General of the United States Navy, and the Surgeon-General of the United States Public Health Service, the Secretary of Agriculture, the Secretary of Commerce, the Association of Official Agricultural Chemists, the Association of American Dairy, Food and Drug Officials, the National Wholesale Druggists' Association, the National Dental Association, the American Drug Manufacturers' Association, *the American Pharmaceutical Manufacturers' Association, the Federal Wholesale Druggists' Association,* the United States Division of Customs, ** (and the University of Havana) and by the organizations not hereinbefore named which were admitted to representation in the Convention of 1900, shall also be members of the corporation. Each body and each branch of the United States Government above mentioned shall be entitled to send three delegates to the meetings of this corporation. But no such delegates as are provided for in this article shall be members until their credentials shall have been examined and acted upon as provided for by the By-Laws. Delegates admitted as members at any decennial meeting shall continue to be members of the United States Pharmacopoeial Convention until their successors shall have been appointed and admitted as delegates to the ensuing Convention and no longer.

**Note: It being understood that the University of Havana will be included as a part of the representation accorded to the colleges and associations of the Republic of Cuba and that the elimination of the words "and the University of Havana" is recommended only in the event of the adoption of the new amendment to Section 1.

BY-LAWS

CHAPTER VII

Of the Committees on Credentials and Arrangements

Article I. The Committee on Credentials (and Arrangements) shall consist of five members and shall be appointed by the President from among the delegates to the decennial meeting, not less than two months before the meeting. *The Chairman of the Board of Trustees shall be a member ex officio of the Committee on Credentials.*

Article II. It shall be their duty to examine carefully the credentials of all delegates. *Credentials issued in blank, leaving the names of the delegates and alternates to be inserted subsequently by other than the regularly constituted officers of the appointing associations or institutions, shall not be accepted as meeting the requirements of this Chapter.* Immediately before the meeting of the Convention they shall furnish to the President a roll containing the names of the Incorporators, the Officers of the Convention, the Board of Trustees, the General Committee of Revision and of those delegates whose credentials are unquestioned and approved. They shall also make report to the Convention concerning all credentials which have been questioned, or appear to them to be of doubtful validity.

Article III. (This Committee shall continue in office until their successors are appointed.) *The Committee on Arrangements shall consist of five members residing in or convenient to the City of Washington, D. C., and appointed by the President,* and shall be charged with the duty of making the necessary arrangements for holding the said decennial meeting. The President, Secretary and Assistant Secretary of the Convention shall be ex officio members of the Committee.

CHAPTER IX

Of Meetings

Article I. The regular decennial meetings of the Convention shall be held upon the second Tuesday in May every tenth year as provided in the Constitution and the place of meeting shall be in the City of Washington, D. C., *unless, in case of emergency, the Board of Trustees and officers of the Convention, by joint vote, shall select some other place of meeting and some date within the same year other than the second Tuesday in May.* See Constitution, Article V. Twenty-five members shall constitute a quorum.

Article II. Section 4. Report of the Chairman of the Board of Trustees, the Secretary of the Board of Trustees, (and) the Treasurer of the Convention *and the Chairman of the Committee on Revision.*

Section 5. The reports of the Committees on Credentials and Arrangements shall then be considered.

RECENT DEATHS

LYNCH—Dr. Patrick Michael Lynch, a Fellow of the Massachusetts Medical Society and of the American Medical Association, died at his home in Springfield, August 12, 1929, at the age of 55, after a brief illness.

He was born in Holyoke, April 25, 1874, was educated at Boston College, where he was a member of the class of 1899, and at Georgetown University School of Medicine, taking his M.D. degree there in 1901. After an internship at the House of Mercy Hospital in Springfield, Dr. Lynch settled in practice in that city.

Besides his widow he leaves two sons and a daughter.

SMITH—Dr. Harley Smith died at the Toronto General Hospital, August 12, 1929. He was Secretary of the University of Toronto Medical Alumni Association. He was formerly President of the Toronto Academy of Medicine and a leading physician in Canada. He had many friends in the United States.

HAZELTON—Dr. Isaac Hills Hazelton, a retired Fellow of the Massachusetts Medical Society, died at his home in Wellesley Hills, August 5, 1929, aged 91.

The son of Isaac Hills and Susan Pickard Hazelton, he was born in Boston, May 17, 1838. He was graduated from the Boston Latin School, and from Harvard Medical School in 1861.

He was assistant physician at the New Hampshire State Asylum for the Insane for several months in 1861, resigning to accept an appointment of assistant surgeon in the United States Navy, and thereafter served on the U. S. S. gunboat Ohio, and on the gunboat Paul Jones. He was with General Gilmore for a time, and for a part of 1863 he was stationed at the Charlestown Navy Yard. The following year he was surgeon on the flagship U. S. S. Lancaster.

In the fall of 1865 he resigned this post to become assistant physician at the McLean Hospital, then at Somerville, holding this position for two years. From 1869 to 1877 he conducted a private hospital for nervous and mental cases at Wellesley Hills. At one time he was State medical examiner for insane criminals.

On October 23, 1876 Dr. Hazelton married Miss Mary Allen Brewster of Newburyport; she died in 1928. He is survived by one son and three daughters.

NEWS ITEMS

APPOINTMENT OF DR. CHARLES H. PELTON—The board of trustees of the Boston City Hospital has selected Dr. Charles H. Pelton to fill the position of Assistant Superintendent to fill the vacancy caused by the resignation of Dr. E. A. Wilson.

Dr. Pelton is a graduate of Johns Hopkins School of Medicine and is recorded in the Directory of the American Medical Association as having been connected with the Montefiore Hospital Association in Pittsburgh.

The appointment has been confirmed by His Honor, Mayor Nichols.

APPOINTMENT OF DR. ROY D. HALLORAN—Dr. G. M. Kline, Commissioner of Mental Diseases, has announced the appointment of Dr. Roy Dennis Halloran to the position of Assistant in the Massachusetts Department of Mental Diseases.

Dr. Halloran is 34 years old, was born in Cambridge, graduated from Dartmouth and secured his M. D. from Columbia. He is instructor in psychiatry at Tufts College Medical School.

NOTICES

REMOVAL—Dr. Earl Francis Ryan, formerly of Maynard, Mass., has opened an office at 227 Walnut Street, Newtonville, Mass.

THE SALEM ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS NEEDS ADDITIONAL DONATIONS

Mr. Elmer A. Cowdrey of Peabody presented the first donation of $100.00 to the Salem Association for the Prevention of Tuberculosis for their "Extension and Improvement Funds". Mr. Cowdrey is one of the trustees of the "Discretionary Fund" created by the will of the late Colonel David Lyman Jewell of Wollaston, and it is through Mr. Cowdrey's interest in the health and happiness of the children of the North Shore that the Salem Association has received this gift.

The sum of money needed by the Salem Association for the Prevention of Tuberculosis is $1,000 which will be used for the purpose of improving the buildings at the Health Camp and for erecting a new dormitory. The Salem Health Camp is one of the brightest features of the work of the Association and the improvement in the health of the youngsters who have the benefit of the rest, fresh air, and nourishing food together with the healthful exercises and handicrafts is most gratifying to those who have contributed to this object. The Board of Health also co-öperates in a most practical manner by furnishing the noon meal.

At present, however, it is necessary for some of the children to return home each evening because of the lack of accommodations, and thus the Directors of the organization are handicapped in their work. Mr. Cowdrey's gift is the first donation that will assist in the elimination of this handicap and the Directors are looking for other philanthropic citizens to give donations for the necessary equipment. Miss Marguerite Collins, R.N., the Camp Director, cordially invites visitors to the Health Camp at any time.

UNITED STATES PUBLIC HEALTH SERVICE

CHANGE OF DUTY AND STATION OF COMMISSIONED OFFICER OF THE UNITED STATES PUBLIC HEALTH SERVICE

Assistant Surgeon E. G. Williams. Directed to proceed from Baltimore, Md., to Boston, Mass., and re-

turn, for the purpose of attending the Thirteenth International Physiological Congress, August 19-23.

UNITED STATES CIVIL SERVICE EXAMINATIONS

The United States Civil Service Commission announces the following open competitive examinations:

Junior Zoölogist

Applications for junior zoölogist must be on file with the Civil Service Commission at Washington, D. C., not later than September 24.

The examination is to fill vacancies in the Bureau of Animal Industry, Department of Agriculture, for duty in Washington, D. C., or in the field.

Social Worker (Psychiatric), $2,000 a Year
Junior Social Worker, $1,800 a Year

Applications for social worker (psychiatric) and junior social worker will be rated as received by the Civil Service Commission at Washington, D. C., until December 30.

The examinations are to fill vacancies in hospitals of the Veterans' Bureau throughout the United States.

Full information may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the United States Civil Service Board of Examiners at the post office or customhouse in any city.

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

September 27-28—New England Surgical Society. Detailed notice appears on page 1227, issue of June 6.

October 7-19—New York Academy of Medicine. Detailed notice appears on page 468, issue of February 28.

October 13-18—General meeting of the International Society of Medical Hydrology and International League for Combating Rheumatism. Detailed notice appears on page 288, issue of August 8.

October 21, 22, 23, 24, 25—International Assembly of the Inter-State Post-Graduate Medical Association of North America. For detailed notice see page 341, issue of August 15.

November 4, 5, 6 and 7, 1929—Clinical Congress and Eighth Annual Meeting of the American College of Physical Therapy. See page 149, issue of July 18, for details.

December 2-6—The Radiological Society of North America. Complete notice appears on page 149, issue of July 18.

May 5-10, 1930—First International Congress on Mental Hygiene. See page 191, issue of July 25, for details.

DISTRICT MEDICAL SOCIETY

Norfolk District Medical Society

Schedule of meetings for the year 1929-1930. Invitations have been sent to the speakers and the list is true only on condition of their acceptance.

October 29—Medfield State Hospital, Harding, Massachusetts. Papers by the Staff.

November 25—Roxbury Masonic Temple. Dr. Roger Graves, "Urology from the Standpoint of the General Practitioner." Surgical discussion. Medical discussion.

January 27, 1930—Roxbury Masonic Temple. "Recent Advances in Diagnosis and Treatment of Syphilis." Speaker to be announced.

February 24, 1930—Roxbury Masonic Temple, 8:00. Dr. Edwin H. Place has been invited to read a paper and has been given carte blanche in the selection of his subject.

March 24, 1930—Roxbury Masonic Temple. Dr. Burton E. Hamilton. Subject to be announced.

May 6, 1930—Annual Meeting. Program to be announced.

The Censors meet for the examination of candidates, November 7, 1929, and May 1, 1930, in the Roxbury Masonic Temple, 171 Warren Street, Roxbury, at 4:00 P. M. Applications must be in the hands of the Secretary at least one week previous to date of examination.

Owing to inability to engage the Roxbury Masonic Apartments on the last Tuesday of the month, such meetings as will be held in the Roxbury Temple will be held Monday evenings as per the dates above.

FRANK S. CRUICKSHANK,
Secretary, Norfolk District Medical Society.

BOOK REVIEWS

Tuberculosis: Its Prevention and Home Treatment. By H. Hyslop Thomson, M.D., D.P.H. Oxford Medical Publications. Price $0.75. Third Edition.

This little book of Dr. Thomson's is of distinct interest in showing how different the English point of view is from our own. The title is a bit of a misnomer as there is nothing on the prevention of tuberculosis, the book being devoted entirely to home treatment. There are eleven chapters and 96 pages. The author makes the statement that tuberculosis in certain of its forms has been proved to be a curable disease. I rather wonder as to his saying this as it implies doubt. It is of course well known that tuberculosis is one of the most curable of diseases.

He devotes only one paragraph to infection from tuberculosis through milk. This important subject should be given more emphasis. Throughout the book he is apt to deal with generalities rather than to come down to general and specific details. For instance, "For the preparation of proper meals a certain amount of trouble is necessary". Again, "Bathing facilities should be provided in every house"; "Strict rules should be enforced in factories and workshops against the act of spitting anywhere except in special spittoons". He does not tell us how these rules should be enforced, however.

He states that when the return to health is slow and unsatisfactory, the individual should be sent to the country or seaside and states that it is necessary to avoid overwork and worry and, again, he does not tell us how we are to do these things. Throughout the whole book he hardly does justice to the sanatorium and speaks of it in a somewhat off-hand way. In this country we look upon the home treatment of tuberculosis as a rather poor substitute for sanatorium treatment and we believe that in the vast majority of cases a patient should spend some time at least at a properly run sanatorium purely for the educational advantages which he can get there and which he cannot possibly get in the home.

In regard to certain details of home treatment, he says, "Patients cannot record their own pulse rate". I am unable to understand this statement as I have hundreds of patients who send me their temperature and pulse rates over a long period of time. He states that "tuberculous children and those predisposed to the disease require special care". One wonders how he selects those who are predisposed to the disease! He recommends deep breathing exercises for individuals with narrow, flat chests, to which most of us would take exception. In his remarks on tuberculosis and marriage he does not consider a most important question in regard to this,—as to whether

the patient if a woman should or should not be allowed to have children. In speaking on the importance of routine he recommends rest for ½ hour after the mid-day meal. In this country we would make this period two hours rather than ½ hour. He gives a very sane chapter on diet and puts the question of vitamines in an understandable way, giving major importance to a rest before eating which one rarely finds sufficiently emphasized.

The preparation of a book of this sort is difficult. The tendency of the majority of writers in this country is to give the patient too much and too detailed information. The only criticism which I have of Dr. Thomson's book is that he does not give quite enough details. On the whole the book is sane and sound and will prove helpful.

American Illustrated Medical Dictionary. By W. A. Newman Dorland, M.D., Member of the Committee on Nomenclature and Classification of Diseases of the American Medical Association.

This dictionary was reprinted in July, 1928, and therefore may be considered to be up-to-date. It has been re-edited by the editorial staff of the American Medical Association under the direction of Dr. Morris Fishbein with the collaboration of Drs. L. Hektoen, P. N. Leech, Marjorie Hutchins, M. P. Lyon and H. F. Walcott.

The official nomenclatures of the American Chemical Society, the Council on Physical Therapy, the Council on Pharmacy and Chemistry, the Association of Pathologists and Bacteriologists and the American Radiological Association have been used.

To those engaged in publishing medical papers it would be a comfort if writers and speakers would pay some attention to standard medical dictionaries of which this book is an example.

It is printed on good paper with good type and includes an abundance of illustrations.

Fifteenth Edition, Revised and Enlarged. Octavo of 1427 pages, 525 illustrations, 107 of them in colors. Philadelphia and London. W. B. Saunders Company, 1929. Flexible binding. Plain $7.00 net; Thumb Index $7.50 net.

An Introduction to the Study of Physic. By William Heberden (1710-1801). A prefatory essay by Le Roy Crummer. New York: Paul B. Hoeber, Inc., 1929. xi+159 pages. Price $2.00.

Dr. Le Roy Crummer, well known as a student of medical history, has discovered a new manuscript by Heberden. Crummer describes his discovery in some detail in the preface to this book. In addition he has consulted other manuscripts of Heberden's and gives a valuable list of those that he has found. One of the interesting things about the manuscript is Heberden's list of books which he recommends for students. Most of them have been easily identified by Dr. Crummer. Heberden, himself, must have been interested in the history of medicine for he highly recommends two books on the subject, both of which were comparatively new in 1784, Le Clerc and Freind.

This book is one of a series of small essays excellently published by Hoeber. Some of the material has already appeared in the *Annals of Medical History.*

The History of Hemostasis. By Samuel Clark Harvey, M.D. New York: Paul B. Hoeber, Inc., 1929. 15+128 pages. Price, $1.50.

The volume is a brief but quite adequate account of hemostasis as developed throughout the ages. Much of the material has appeared in the *Annals of Medical History.* This small book makes a pleasant addition to the series of "little blue books" so well published by Hoeber.

Devils, Drugs, and Doctors. By Howard W. Haggard, M.D. New York and London: Harper and Brothers. 1929.

This monograph by Dr. Haggard of Yale presents in fascinating form the story of the science of healing from medicine-man to doctor. It is told under many headings,—the conquest of death at birth, the story of anesthesia, the progress of surgery, the passing plague and pestilence, the healing art, and medicine through the ages. It is illustrated with 134 figures and 16 plates from original sources, many of them unfamiliar to the student of medical history. The author is greatly to be complimented upon the felicity of his descriptions and upon the wide range of knowledge which he presents in this valuable contribution to the history of medicine.

Reflections and Operations. By Sir John O'Conor, K.B.E., M.A., M.D. Edited by Beatrice and May O'Conor. London: Baillière, Tindall and Cox. 1929.

This posthumous volume is a collection of brief papers and case reports by a distinguished Irish surgeon who spent his professional life as head of the British Hospital at Buenos Aires. It contains a wealth not only of surgical experience but of opinions and reflections upon man and womankind which picturesquely illustrate the intensely characteristic personality of the author. There is an admirable foreword by Dr. Herbert J. Paterson, and biographic memoir by the author's elder daughter. The volume is of extreme interest for the wide range of surgery which it represents and as the record of a highly vitalized and intensive life of service to humanity.

The New-Born Infant. By Emerson L. Stone, M.D., New Haven. Philadelphia: Lea and Febiger. 1929. Price $2.00.

This admirable manual of obstetric pediatrics should be welcome to those practitioners who cannot, or who do not wish to, turn over their newborn babies immediately to the pediatrician. In it the author aims to correlate data otherwise scattered through a vast medical literature, and to emphasize the obstetrician's responsibility and standpoint and sharpen and extend his interest in this branch of his work. As in all books, small details may be singled out for criticism, but in the main this volume is entirely praiseworthy. There is an obvious misspelling at line 23 of

page 18, which evidently escaped the proof-reader's eye. The consistent misspelling of *succedoneum* throughout the book should be corrected in a subsequent edition. It is surprising that *lobelin* is not mentioned among the respiratory stimulants. It is lamentable, but perhaps not surprising, that percentage feeding is curiously dismissed with few words on page 80, since this excellent and valuable method seems now to be largely forgotten or treated with contempt. Particularly to be commended are the paragraphs on intracranial injuries. The author fails to note, however, the probable etiologic correlation between syphilis and haemorrhagic disease.

Les Accidents de la Cholécystectomie. By Serge Huard. Masson et Cie. Paris. 116 pp. 17 fig. Price 16 fr.

This small treatise is concerned with the injuries to the important structures of the hepatic pedicle which may attend the removal of the gall-bladder. These are divided into accidents which may be recognized at the time of operation and injuries only made evident by their sequelae during convalescence. The anatomy of the biliary passages is pictured, with a description of certain anomalies that may be encountered. The material is not particularly new and the work as a whole is without significance.

The Vertebrae. By Arial Wellington George, M.D., and Ralph Davis Leonard, M.D. Paul B. Hoeber, Inc., New York. 256 pages. Price $10.00

The authors present a study of the vertebrae from the point of view of a roentgenologist with rather wide experience, especially in the handling of industrial accident and court cases. Those lesions which are the result of, or are likely to be mistaken for injuries receive the greatest attention.

The book, as stated in the title, is a monographic atlas and the opinions expressed are those of the authors, some of which might not be generally accepted although, on the whole, they are conservative and conform to the generally accepted facts. The illustrations are well selected and, as would be expected in an atlas, are numerous and of excellent quality. The method of examination used by the authors is given in detail. There is considerable repetition, and the arrangement of the subject matter makes reference to specific lesions difficult. In an appendix there is an excellent chapter on Medico-legal Expert Testimony.

International Clinics. Edited by Henry W. Cattell, M.D., Volume 2. Thirty-Ninth Series, 1929. J. B. Lippincott Company. Philadelphia and London. 1929.

This issue is in general one of sustained excellence. The condition of obscure subarachnoid hemorrhage in young people is partly clarified by Parkes Weber's discussion of congenital and developmental aneurysms. There is also appended a very complete bibliography. The diagnostic value of some reflexes is reviewed by Gordon. Baehr and Klemperer present a thorough clinico-pathological discussion illustrating various types of liver disease.

The latter part of the volume is unique in several features and is especially devoted to several modern problems. The relation of pharmacy as such to medicine and vice versa has become a definite practical problem and it is of distinct interest to read the symposium of this subject presented here. The advantages and disadvantages of the invasion of commercialization into pharmacy are frankly discussed. Lewellys Barker deals with the question of medical ethics in an article on "Manners and Morals". There is a long physiological review of the "Maternal side of Femininity" by Lodholz.

Selected Readings in Pathology from Hippocrates to Virchow, edited by Esmond R. Long. Charles C. Thomas, Springfield, Ill., and Baltimore, Md., 1929. 14+301 pages.

The volume consists of a number of excerpts from the important writings of many physicians who have made notable contributions to pathology. The selections are brief but adequate and Dr. Long has, fortunately, chosen well-known translations for those works not published in English. The illustrations of the book are not very satisfactory and could well have been omitted. The book has distinct value in that it brings to hand for quick consultation many important references to pathology and here we may read—often, it must be said, for the first time—in the actual words of the author his description of a disease or its special pathology. Dr. Long has selected his material with great care.

Keeping the Baby Well. John Howell West, Ph.B., M.D. Publisher: The Knickerbocker Press, New York.

"Keeping the Baby Well" is intended primarily for the mother but is of the practical type that medical students and nurses would do well to study and have in their possession. It contains a mass of information concerning the physical and mental characteristics of the baby at different ages and advice concerning his routine care and feeding. There is nothing new in the scope of the book—every medical center has similar books written for the mother by local men. Dr. West's book is more complete than the usual "baby" book.

In certain sections, particularly on infant feeding, the pet ideas and methods of the author and his group have crept in and tend to make the book less valuable for use in the practices of men from other schools.

In a volume on "Keeping the Baby Well" a discussion of the Schick test, Toxin-Antitoxin and Vaccination might profitably have been included.

Studies from the Rockefeller Institute. Volume 67.

This volume of reprints, a contribution from the Rockefeller Institute, represents the usual wide range of subjects. One of the outstanding papers is that of Noguchi on the Etiology of Trachoma.